



ST. LOUIS DISTRICT MOBILITY

JULY/AUGUST 2017

GUIDEPOST

- OVERALL FREEWAY MOBILITY HAS DECREASED IN BOTH THE AM AND PM PEAK PERIODS FROM JULY TO AUGUST
- AVERAGE INCIDENT / LANE CLEARANCE TIMES CLIMBED AS LONG DURATION EVENTS LIKE A TRAIN DERAILMENT ON I-55 CONTRIBUTED TO INCREASED CLEARANCE TIMES
- MAJOR AND MODERATE WORK ZONE IMPACTS CONTINUED ON THE EASTBOUND POPLAR STREET BRIDGE, I-55 SOUTHBOUND AT ROUTE A, I-70 AT ROUTE Z AND WESTBOUND I-44 AT ROUTE 109 TO ROUTE 141 PROJECTS
- NUMEROUS INCIDENTS INVOLVING POLICE ACTIVITY NEGATIVELY IMPACTED THE REGION'S MOBILITY AND ARE NOTED AMONG THE MAJOR INCIDENT REPORTS



AVERAGE INCIDENT / LANE CLEARANCE TIMES CLIMBED IN AUGUST AS LONG DURATION EVENTS LIKE THE TRAIN DERAILMENT ON I-55 THAT CLOSED I-55 AND THE I-270 RAMP TO I-55 CONTRIBUTED TO THE INCREASE

MOBILITY SNAPSHOT



FREEWAY MOBILITY

JULY TO AUGUST COMPARISON:

AM MOBILITY DECREASED

PM MOBILITY DECREASED



MAJOR INCIDENTS

JULY 2017: 7 → AUGUST 2017: 7



AVERAGE INCIDENT DURATION JULY → AUGUST

LANE CLEARANCE: 24:43 → 29:30

INCIDENT CLEARANCE: 28:35 → 34:24
(MIN: SEC)



MAJOR IMPACT WORK ZONES

JULY → 21 AUGUST → 15

MODERATE IMPACT WORK ZONES

JULY → 46 AUGUST → 34

ZONING IN

TMS WORK ZONES

- ♦ JULY 2017: 305
- ♦ AUGUST 2017: 366

WORK ZONE BREAKDOWN:

- ♦ MAJOR: 36 - 7.0%
- ♦ MODERATE: 80 - 15.0%
- ♦ MINOR: 401 - 78.0%

WORK ZONE CRASHES: 17



GATEWAY GUIDE
TRANSPORTATION MANAGEMENT CENTER



WORK ZONES

TMC Observed Work Zones July - August 2017			
July		August	
Level of Travel Time Impact	Number of Work Zones	Level of Travel Time Impact	Number of Work Zones
Major Impact	21	Major Impact	15
Moderate Impact	46	Moderate Impact	34
Minor Impact	178	Minor Impact	223
Total	245	Total	272

*Impact Levels described in Data Key

SL Mobility Rating:

- ◆ Jul 2017: 92%
- ◆ Aug 2017: 91%
- ◆ Goal: 91%

SL Visibility levels:

- ◆ Jul 2017: 93%
- ◆ Aug 2017: 92%
- ◆ Goal: 91%

Additional Travel Time Impacts through Work Zones

Major Impact (15 Minutes or Above)

Moderate Impact (10-14 Minutes)

7/1 – 8/31 (Daily) Eastbound I-64 – Poplar Street Bridge 3 right lanes (25 Major 58 Moderate)

- Closed leaving one lane of traffic open eastbound before Poplar Street Bridge daily
- All mitigation efforts were in use
- RITIS data recorded additional travel times up to 25 minutes during non-peak hours

7/14 – 7/16, 8/11 – 8/14, 8/25 – 8/27 (Weekend) Southbound I-55 — Jefferson County right lane (5 Major 10 Moderate)

- Traffic reduced to one lane all weekend for bridge work.
- All mitigation efforts were in use
- RITIS data recorded additional travel times up to 48 minutes

7/12– 7/13 (Nightly) Westbound I-44 – 109 to 141 right lanes (2 Major 4 Moderate)

- Traffic reduced to one lane during overnight hours for coring
- Hours on westbound traffic were adjusted to 10:00 pm start time
- RITIS data recorded additional travel times up to 17 minutes

7/16 (Monday) Westbound I-70 – Route Z (1 Major 2 Moderate)

- Traffic reduced to one lane during daytime for high friction treatment application
- Weekend work was scheduled for traffic considerations
- RITIS data recorded additional travel times up to 54 minutes



WORK ZONES

8/12 (Saturday) Eastbound I-70 – between Foristell & Wentzville Parkway (1 Major 2 Moderate)

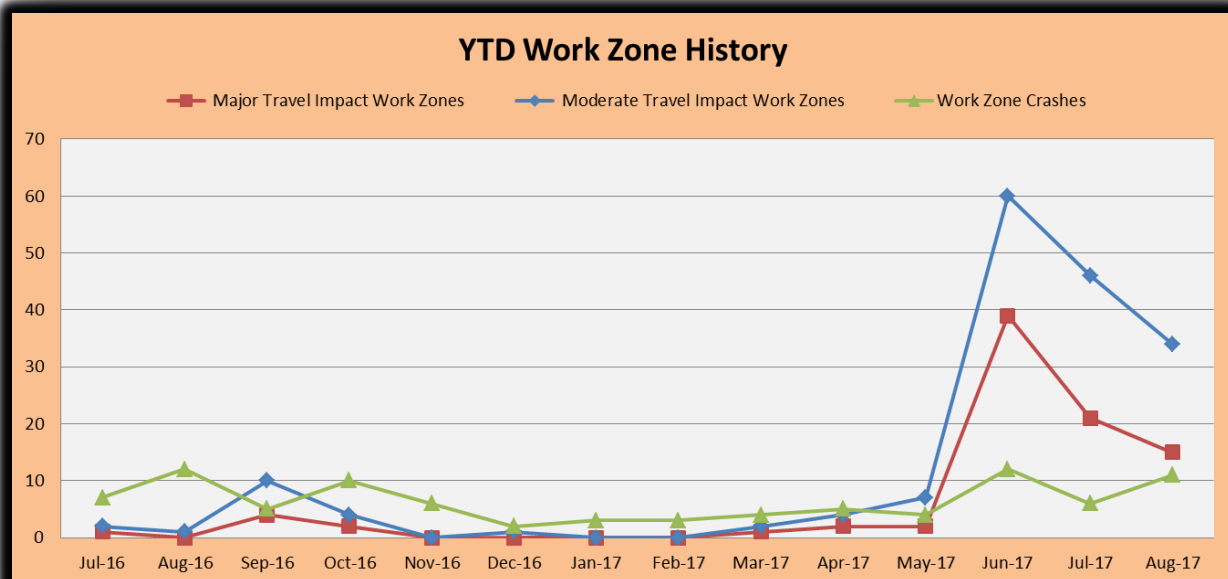
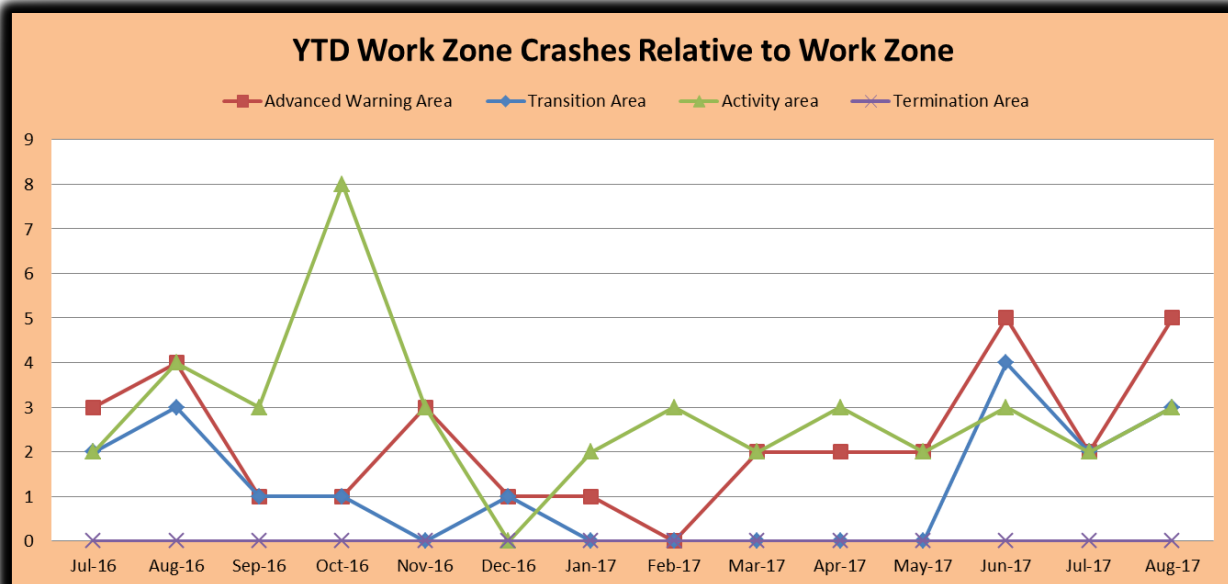
- Traffic reduced to one lane during weekend for full-depth pavement repair
- All mitigation efforts were in use
- RITIS data recorded additional travel times up to 53 minutes

8/25 – 8/27 (Weekend) Westbound I-70 – Route Z right lane (2 Major 4 Moderate)

- Traffic reduced to one lane during weekend for full-depth pavement repair
- All mitigation efforts were in use
- RITIS data recorded additional travel times up to 37 minutes

Work Zone Related Crashes with Mobility Impact

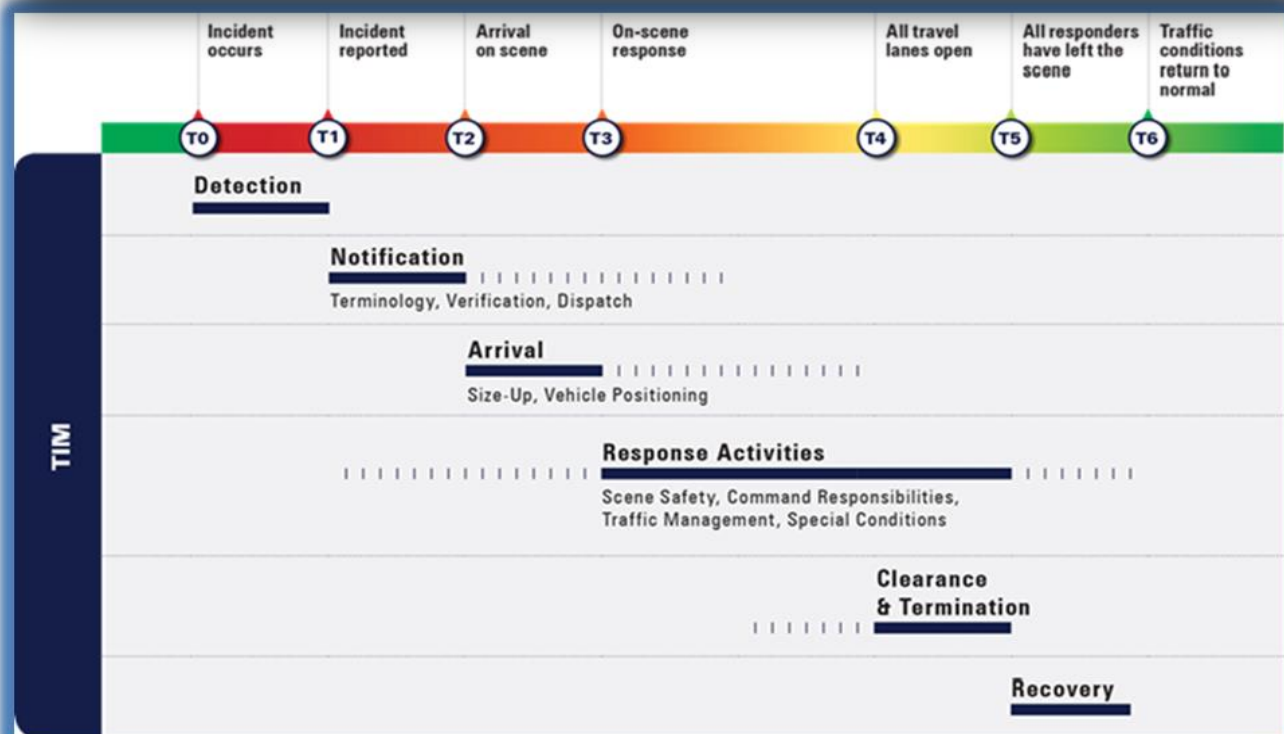
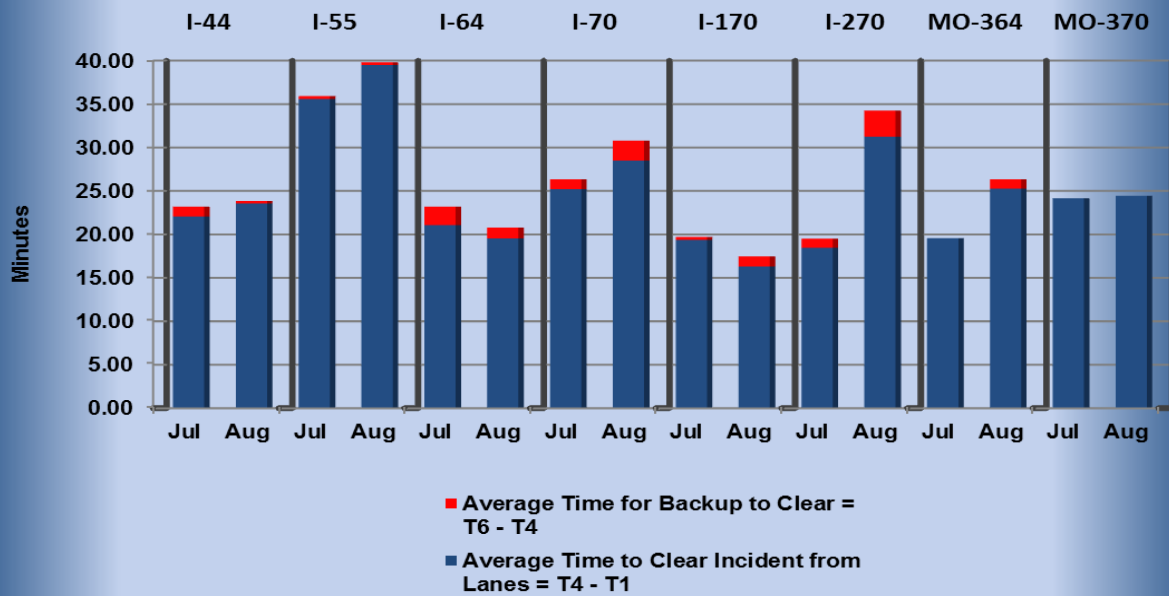
- 7/23 (Sunday) 3:49 am – 9:19 am Westbound I-64 at Exit to I-44 – Crash closed two exit lanes



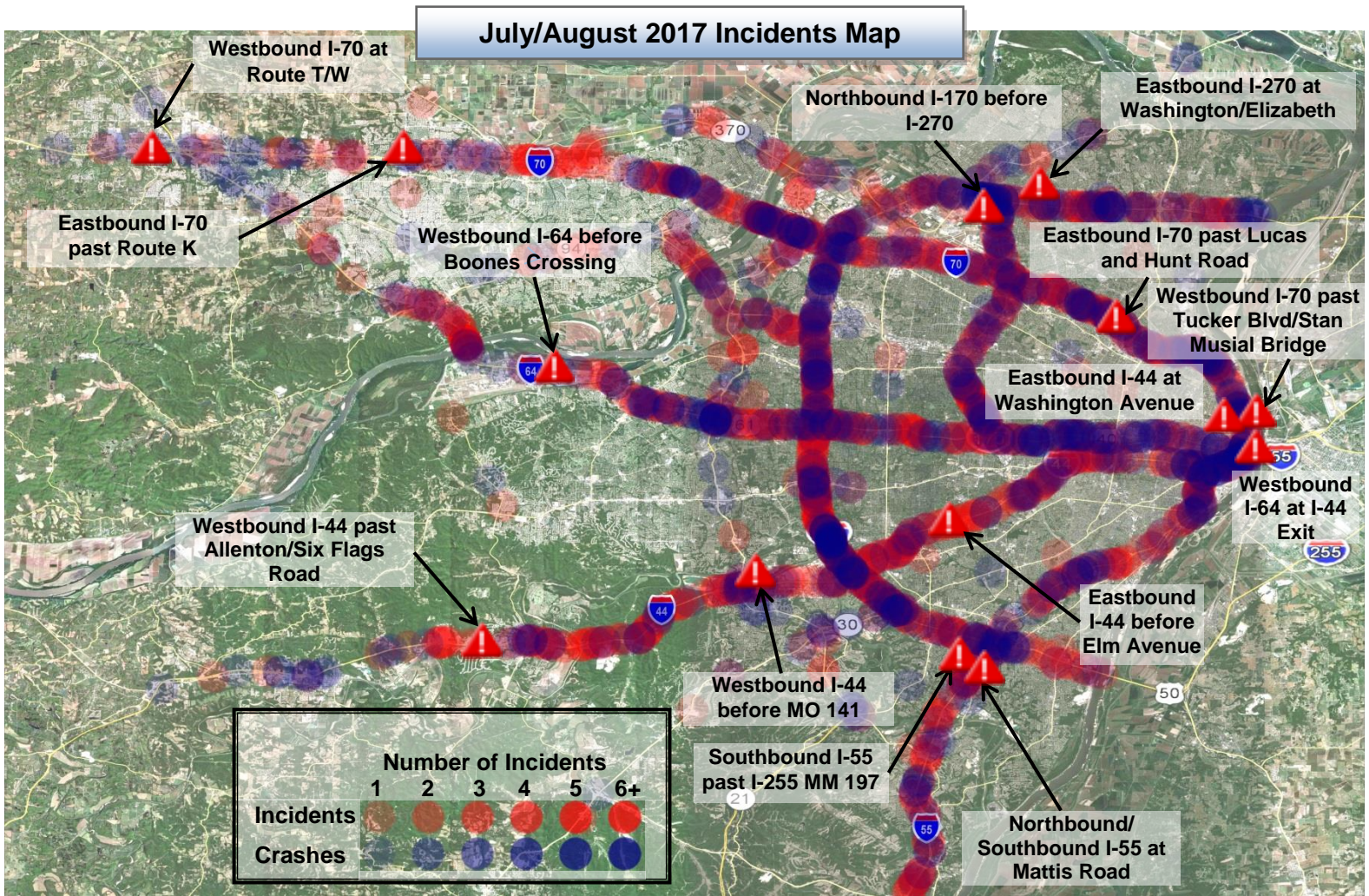


INCIDENT MANAGEMENT

July 2017 vs. August 2017
Incidents Summary

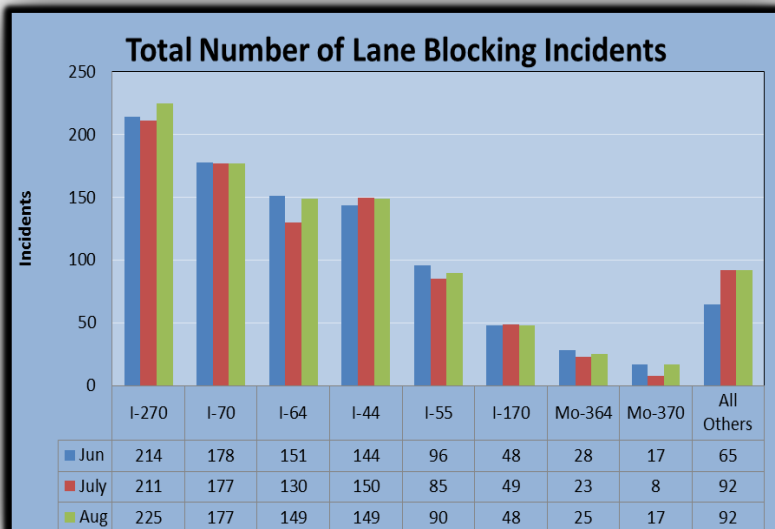


INCIDENT MANAGEMENT



Denotes Location of Major Impact Traffic Incidents

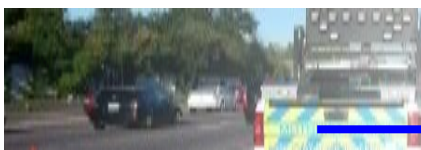
Total Number of Incidents: June: 941 / July: 925 / August: 972



Major Impact Incidents
July 2017 vs. August 2017
(7) (7)

Fatal Incidents
July 2017 vs. August 2017
(9) (4)

Tractor Trailer Incidents
July 2017 vs. August 2017
(49) (50)



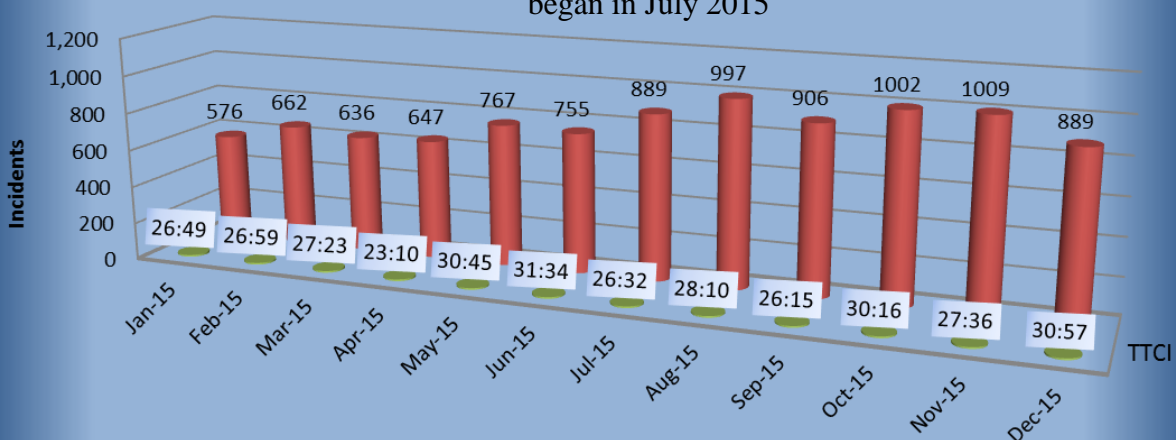
INCIDENT MANAGEMENT

Lane Blocking Incidents by Freeway July and August 2017

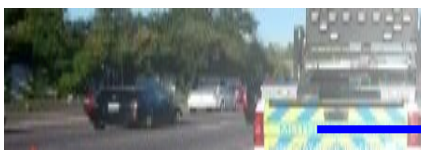
Interstate	Month	Number of Incidents	Average Time to Clear Incident from Lanes = T4 - T1	Average Time for Backup to Clear = T6 - T4	Freeway Miles	Incidents per Mile
I-44	Jul	150	22:07	01:14	33	4.55
I-44	Aug	149	23:56	00:30	33	4.52
I-55	Jul	85	35:58	00:34	23	3.70
I-55	Aug	90	39:50	00:31	23	3.91
I-64	Jul	130	21:08	02:12	40	3.25
I-64	Aug	149	19:53	01:25	40	3.73
I-70	Jul	177	19:38	00:33	38	4.66
I-70	Aug	177	28:50	02:29	38	4.66
I-170	Jul	49	23:53	00:33	11	4.45
I-170	Aug	48	16:31	01:17	11	4.36
I-270	Jul	211	18:47	01:05	36	5.86
I-270	Aug	225	31:25	03:00	36	6.25
MO-364	Jul	23	19:57	00:00	11	2.09
MO-364	Aug	25	25:26	01:07	11	2.27
MO-370	Jul	8	24:15	00:00	13	0.62
MO-370	Aug	17	24:43	00:00	13	1.31
Total	Jul/Aug	1897	24:46	01:02	410	4.63

2015 Number of Incidents and Time to Clear Lanes

*Note changes in Incident reporting data began in July 2015

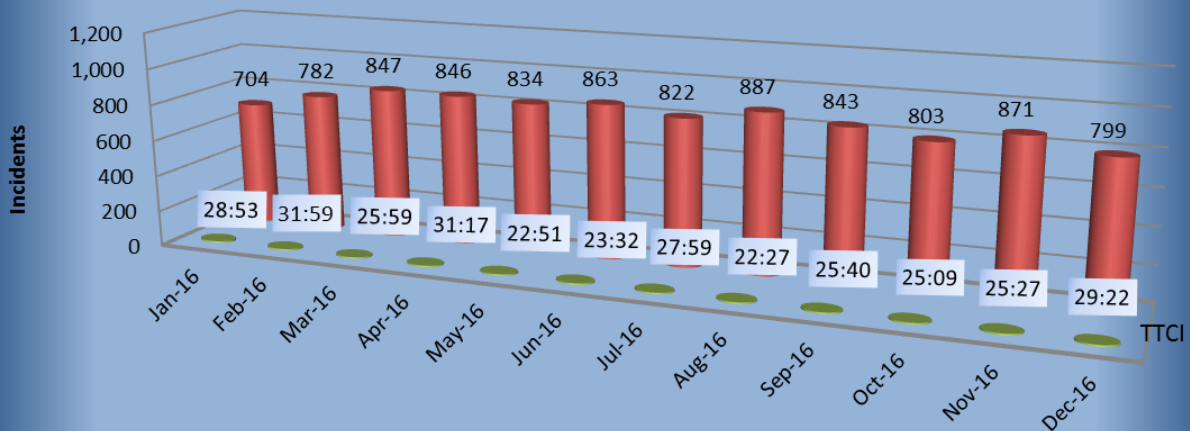


	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15
TTCI	26:49	26:59	27:23	23:10	30:45	31:34	26:32	28:10	26:15	30:16	27:36	30:57
Incidents	576	662	636	647	767	755	889	997	906	1002	1009	889



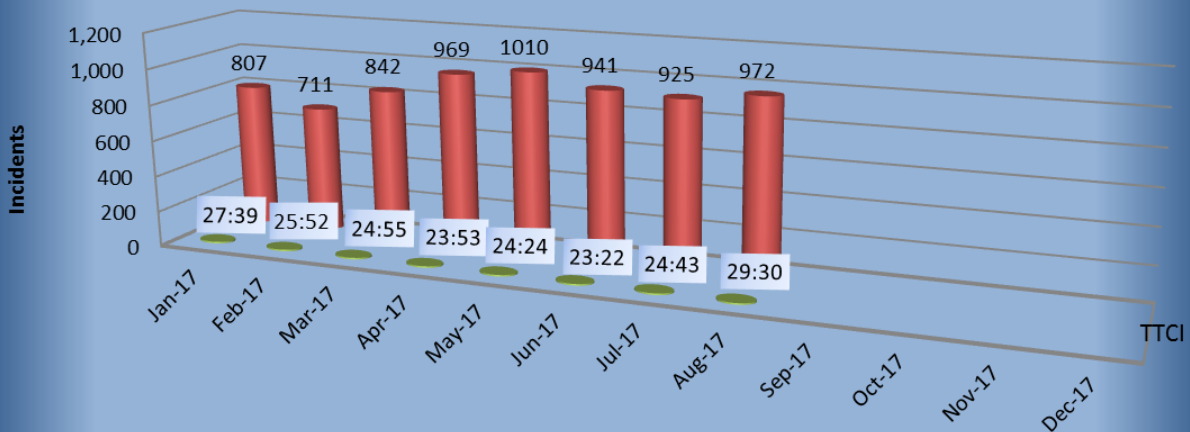
INCIDENT MANAGEMENT

2016 Number of Incidents and Time to Clear Lanes



	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
TTCI	28:53	31:59	25:59	31:17	22:51	23:32	27:59	22:27	25:40	25:09	25:27	29:22
Incidents	704	782	847	846	834	863	822	887	843	803	871	799

2017 Number of Incidents and Time to Clear Lanes

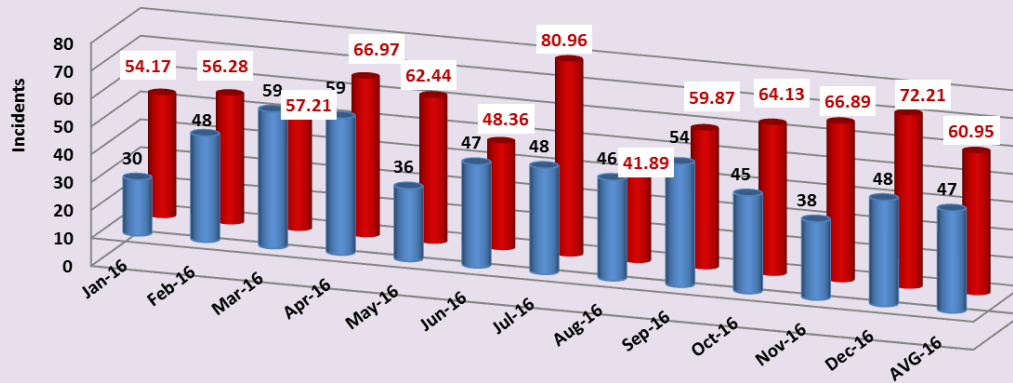


	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17
TTCI	27:39	25:52	24:55	23:53	24:24	23:22	24:43	29:30				
Incidents	807	711	842	969	1010	941	925	972				



INCIDENT MANAGEMENT

2016 Tractor Trailer Incidents / Time to Clear



	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	AVG-16
Incidents	30	48	59	59	36	47	48	46	54	45	38	48	47
TTCI	54.17	56.28	57.21	66.97	62.44	48.36	80.96	41.89	59.87	64.13	66.89	72.21	60.95



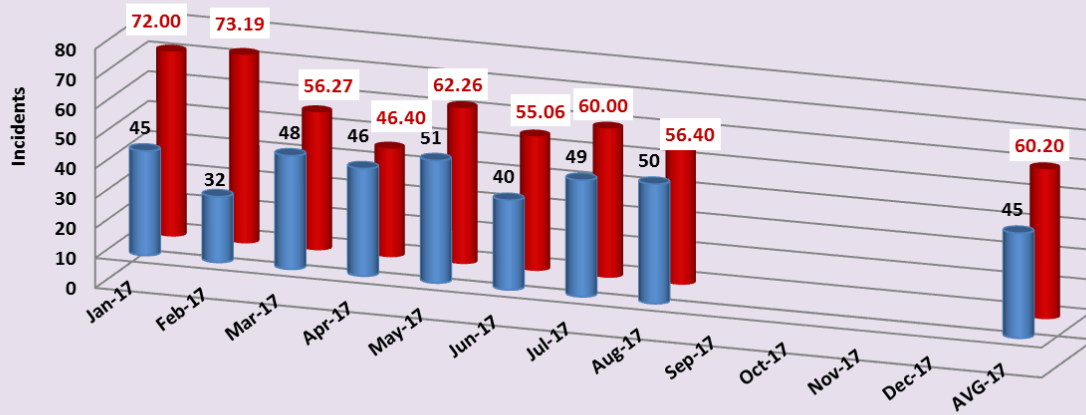
2016	I-44	I-55	I-64	I-70	I-170	I-255 / I-270	Route 364	Route 370	* Other	Total
Jan	7	3	4	5	1	10	0	0	0	30
Feb	10	3	10	15	2	5	0	1	2	48
Mar	14	6	6	22	2	8	0	0	1	59
Apr	14	7	6	16	1	11	0	2	2	59
May	7	4	5	9	0	7	0	2	2	36
Jun	14	3	8	12	0	7	0	1	2	47
Jul	16	3	5	13	0	6	0	2	3	48
Aug	16	3	4	9	2	11	0	0	1	46
Sep	12	3	5	18	1	13	0	0	2	54
Oct	10	4	5	11	0	10	0	3	2	45
Nov	18	6	1	6	0	4	0	2	1	38
Dec	5	7	7	14	1	11	0	1	2	48
YR Totals	143	52	66	150	10	103	0	14	20	558

*Other Routes are MoDOT maintained non-freeway routes and were not included on system until July 2015



INCIDENT MANAGEMENT

2017 Number of Tractor Trailer Incidents / Time to Clear



	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	AVG-17
Incidents	45	32	48	46	51	40	49	50					45
TTCI	72.00	73.19	56.27	46.40	62.26	55.06	60.00	56.40					60.20



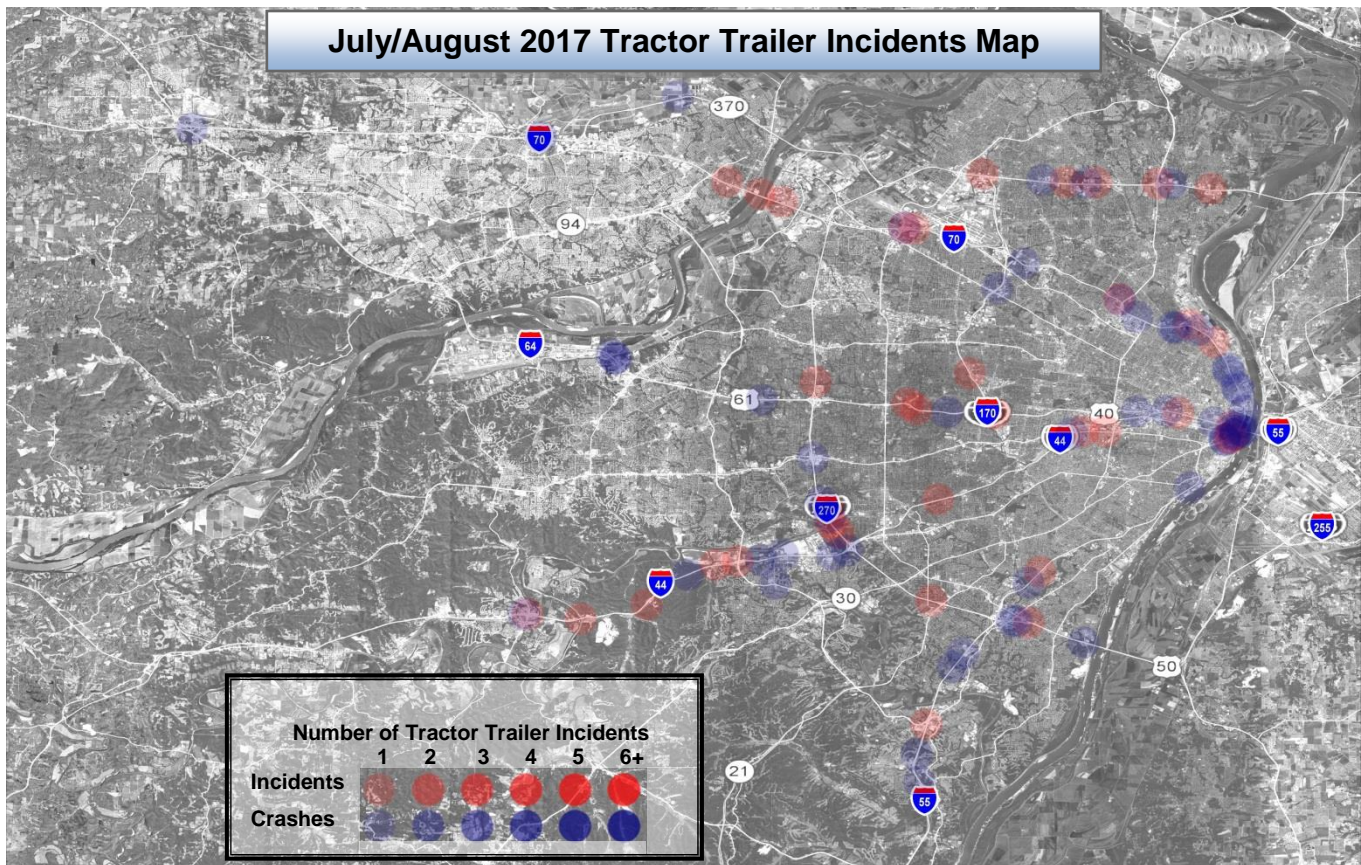
2017	I-44	I-55	I-64	I-70	I-170	I-255 / I-270	Route 364	Route 370	Other *	Total
Jan	11	4	4	11	0	15	0	0	0	45
Feb	10	2	4	6	1	9	0	0	0	32
Mar	12	7	7	12	1	7	0	0	2	48
Apr	16	3	5	10	1	7	0	1	3	46
May	11	8	2	15	0	12	0	0	3	51
Jun	15	3	1	6	1	11	0	1	2	40
Jul	19	5	7	11	1	6	0	0	0	49
Aug	7	4	9	11	1	13	0	1	4	50
Sep										0
Oct										0
Nov										0
Dec										0
YR Totals	101	36	39	82	6	80	0	3	14	361

*Other Routes are MoDOT maintained non-freeway routes and were not included on system until July 2015

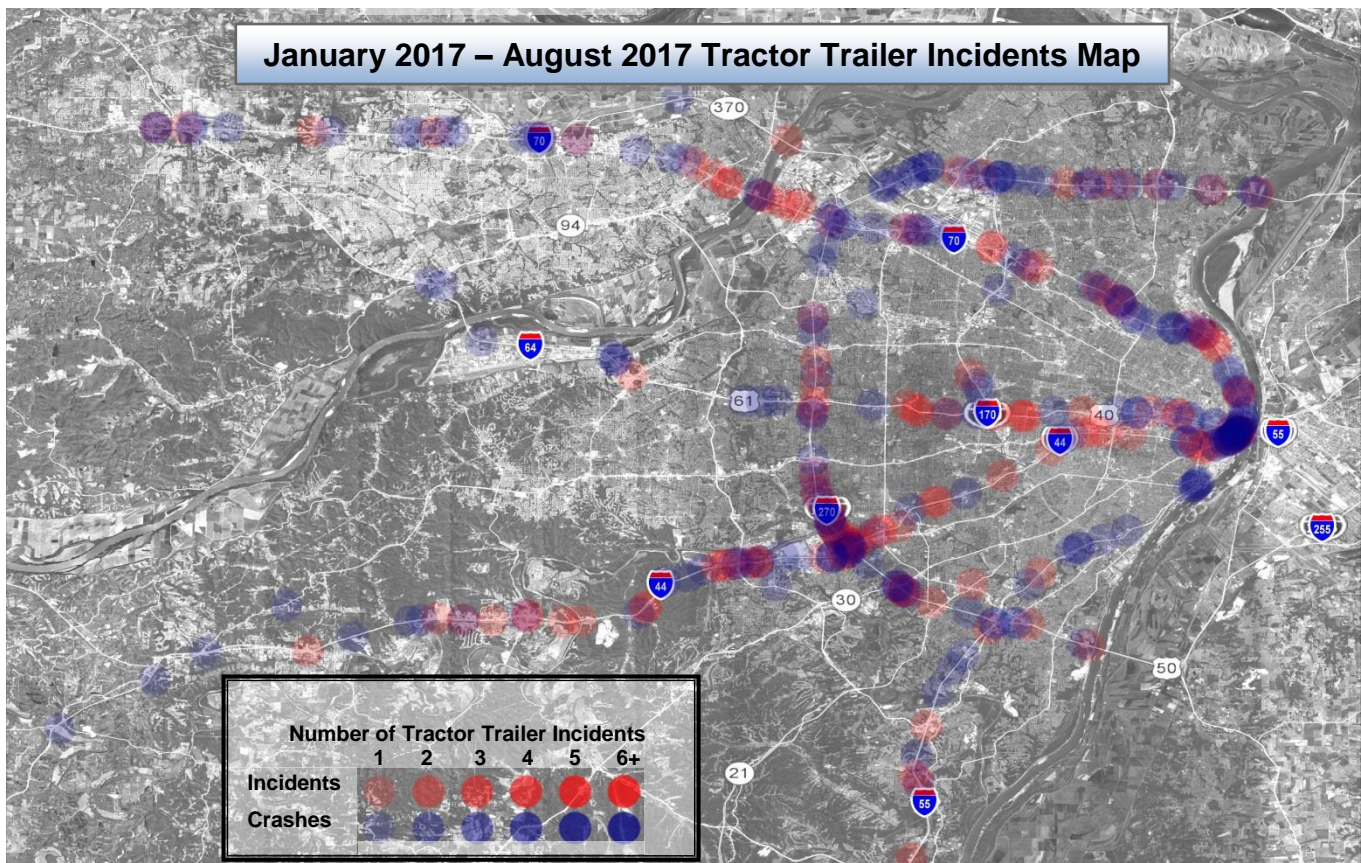


INCIDENT MANAGEMENT

July/August 2017 Tractor Trailer Incidents Map




January 2017 – August 2017 Tractor Trailer Incidents Map

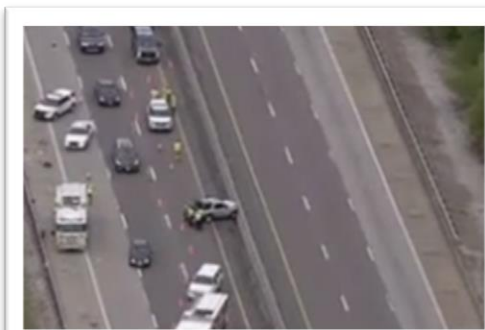


Major Impact Traffic Incidents and Mitigation

7/5/2017 (Wednesday)

- **Time:** 2:37 pm – 5:24 pm *** Fatality/Weather Related ***
- **Location:** St. Louis County – Westbound I-44 past Allenton/Six Flags Road
- **Event:** Two-Vehicle Crash
- **Estimated Initial Impact:** Rush Hour: 3 of 3 travel lanes affected equals (=) 100%
- **Incident Details:** The Missouri State Highway Patrol report states that the driver of an SUV was traveling too fast for conditions and ran off the right side of the roadway striking the guardrail. Both passengers were ejected from the vehicle. The SUV then returned to the roadway where it crossed all lanes of traffic and struck the concrete median wall. One of the passengers who was ejected was pronounced deceased at the scene, the other was transported with serious injuries. A second vehicle traveling through the area ran into debris from the crash. Reports also indicate that it was raining at the time of the crash.
- **Action:** The TMC dispatched four MoDOT Emergency Response units to the scene to assist with traffic control. Eureka Police, Fire and EMS responded and blocked all lanes of traffic. MSHP arrived and took command of the scene. The TMC activated all appropriate DMS boards, and entered the event into TMS to alert the public. ER assisted with diverting traffic off onto the Allenton/Six Flags Road exit, where drivers were able to take MO 100/Manchester Road to get back to I-44. Traffic Engineers were able to adjust traffic signals to improve flow through the detour. Emergency vehicles also blocked Eastbound I-44 exit ramp to Allenton Six Flags Road for two hours to help flow of traffic. The EOC, AE, Communications, Motor Carriers, and the Incident Management Coordinator were all notified. Reconstruction, tow and the coroner all had a delayed response which contributed to the duration. Traffic queued approximately 6 miles, but returned to normal thirty minutes after all lanes were reopened.
- **Event Duration:** 2 hours 47 minutes

Westbound I-44 past Allenton/Six Flags Road	Left Shoulder	Lane 1	Lane 2	Lane 3	Right Shoulder
					
Closed Hours/Minutes	2:47	2:47	2:44	2:41	2:41





INCIDENT MANAGEMENT

Major Impact Traffic Incidents and Mitigation






INCIDENT MANAGEMENT

Major Impact Traffic Incidents and Mitigation

7/9/2017 (Sunday)

- **Time:** 10:23 pm – 1:57 am *** Fatality ***
- **Location:** St. Louis County – Eastbound I-44 before Elm Avenue
- **Event Type:** Police Investigation
- **Estimated Initial Impact:** Non-Rush Hour: 4 of 4 travel lanes affected equals (=) 100%
- **Incident Details:** The Incident initially came over the scanner as an accident. Kirkwood PD contacted the TMC and advised it was a homicide in Webster Groves venue and requested eastbound traffic to be diverted onto Big Bend with the eastbound entrance ramp to I-44 to be blocked as well. It was discovered that three people had been shot while traveling east on I-44 by a suspect in a second vehicle also traveling east. All three victims were transported to a local hospital where one victim died. Police initially had right lane and shoulder closed. Lanes 2 and 3 were closed when fire and EMS arrived and 30 minutes later all lanes were closed. Police found shell casings and had to wait for St. Louis County crime scene to arrive. Crime Scene arrived at 11:44 pm. At 1:33 am, Webster Groves PD started documenting evidence for their investigation.
- **Action Taken:** The incident was entered into ATMS, DMS messages were activated and ER was dispatched. ER briefly closed the left lane of Westbound I-44 to speak with Police about the diversion point. Both dispatch and ER attempted to get Police to move the closure back to Lindbergh Boulevard as it was a better diversion point. Police kept the closure at Big Bend. ER Supervision and EOC were notified and the I-44 page sent. After police advised they would not be able to reopen the interstate until the Crime Scene Investigations Unit arrived, EOC was updated and Motor Carriers, Area Engineer, Communications and the ER Supervisor were notified. All lanes were reopened at 1:57 am.
- **Event Duration:** 3 hours 33 minutes

Eastbound I-44 before Elm Avenue	Left Shoulder	Lane 1	Lane 2	Lane 3	Lane 4	Right Shoulder
						
Closed Hours/Minutes	2:51	2:51	3:24	3:24	3:33	3:33



Major Impact Traffic Incidents and Mitigation



7/23/2017 (Sunday)


- **Time:** 12:56 am – 3:38 am ***Fatality***
- **Location:** St. Louis County – Eastbound I-70 past Lucas and Hunt Road
- **Event:** Police Investigation
- **Estimated Initial Impact:** Non-Rush Hour: 3 of 3 travel lanes affected equals (=) 100%
- **Incident Details:** St. Louis County PD closed Eastbound I-70 east of Lucas and Hunt Road to conduct an investigation into a shooting that occurred inside a taxi cab on the interstate. It was discovered the cab driver shot the passenger in an apparent self-defense after the two got into an altercation.
- **Action:** St. Louis County PD closed the interstate and diverted traffic onto Lucas and Hunt. TMC personnel put the incident into ATMS and it was automatically populated onto the Traveler Map. TMC personnel sent out the SLAdminText and the i70IM alert. DMS boards were activated within one minute of the event start. EOC, ER Supervision, Communications and Motor Carriers were notified. ER was notified as well, but due to the nature of the incident, ER was not permitted to respond. All lanes were re-opened when the investigation was complete. Traffic queue approximately a half mile.
- **Event Duration:** 2 hours 42 minutes

Eastbound I-70 past Lucas & Hunt Road	Left Shoulder	Lane 1	Lane 2	Lane 3	Right Shoulder
					
Closed Hours/Minutes	2:42	2:42	2:42	2:42	2:42

Major Impact Traffic Incidents and Mitigation

7/23/2017 (Sunday)

- **Time:** 3:49 am – 9:19 am
- **Location:** St. Louis City – Westbound I-64 at I-44 Exit
- **Event:** Multi-Vehicle Accident
- **Estimated Initial Impact:** Non-Rush Hour: 2 of 4 travel lanes affected equals (=) 50%
- **Incident Details:** TMC personnel were notified of incident via phone call from a motorist who stated people were swerving on the PSB. When operator confirmed on CCTV, 3 vehicles were observed swerving into construction equipment. One vehicle was observed careening through the work zone equipment by skidding on an arrow board. When vehicles came to rest, three were counted. Two vehicles were able to leave the scene under their own power. However, the third which was tangled in a digital arrow board sign and left abandoned at the scene.
- **Action:** TMC personnel immediately entered the event into ATMS, which populated an incident in the Traveler Map. ER was dispatched to set up traffic control. IDOT was contacted to activate boards on their side of the river, as there were not any boards to use on the Missouri side. Initially both exit lanes to I-44 were blocked, as the exit was already closed due to construction. Lane 2 of Westbound I-64 was also blocked by the abandoned vehicle that was partially sitting on top of the arrow board. However, once ER arrived he was able to quickly push the vehicle and arrow board over to the closed exit lanes and out of mainline traffic. St. Louis City PD was notified at 4:06 am, and they arrived shortly thereafter and began investigating the abandoned vehicle. City Tow responded to remove the vehicle at 5:20 am. From that point on, ER held the exit lanes closed waiting for the contractor to arrive to reset their lane drop and signage for the already scheduled and active ramp closure.
- **Event Duration:** 5 hours 30 minutes

Westbound I-64 at I-44 Exit	Lane 1	Lane 2	Exit Lane 1	Exit Lane 2
				
Closed Hours/Minutes	0:00	0:16	5:30	5:30

Major Impact Traffic Incidents and Mitigation


7/24/2017 (Monday)


- **Time:** 9:10 am – 12:29 pm ***Single Vehicle Accident/Armed Carjacking***
- **Location:** St. Louis County – Southbound I-55 past I-255 (mile marker 197)
- **Event Type:** Single Vehicle Accident
- **Estimated Initial Impact:** Non-Rush Hour: 2 of 4 travel lanes affected equals (=) 50%
- **Time:** 9:31 am to 11:28 pm ***Police Pursuit/Police Investigation/Fatality***
- **Event Type:** Police Investigation
- **Estimated Initial Impact:** Non-Rush Hour: 2 of 2 travel lanes affected equals (=) 100%
- **Incident Details:** The TMC operators received a phone call from the Missouri State Highway Patrol advising of a police pursuit. The suspect had lost control of his vehicle and spun off Southbound I-55 just past I-255 and into the grass. Motorists that witnessed the accident pulled over to check on the suspect after which the suspect carjacked a Good Samaritan's vehicle and fled the scene going south on I-55. Police pursued the suspect and were able to deploy spike strips on the interstate which the suspect subsequently ran over. The vehicle was stopped at mile marker 171 of Southbound I-55 south of US 67/61. The TMC dispatched MoDOT ER to assist with traffic control.
- **Action Taken:** St. Louis County PD blocked lanes 3 and 4 of Southbound I-55 at the 197 MM, the location of the original accident and subsequent carjacking, to secure the crime scene. Jefferson County PD, Jefferson County SWAT and MSHP engaged the suspect who was still inside the disabled carjacked vehicle on Southbound I-55 at the 171 mile marker. A shoot-out ensued and the suspect was fatally injured. ER, MSHP, and Police blocked Southbound I-55 at the 174 mile marker and started diverting traffic onto Southbound US 61. Festus Maintenance responded to relieve ER, MSHP, and Police to set up traffic control. PD and MSHP blocked Northbound I-55 at the 162 mile marker and started diverting traffic on Route OO to Northbound US 61. Jefferson County PD closed the ramp from Route TT to Northbound I-55 at the 165 mile marker. Traffic engineers were notified to adjust necessary signal timing.
- The diversion consisted of traversing through the clover leaf off ramp to a right turn at US 61 @ US 67- American Legion and finally a right turn at I-55 @ US 61 to reenter the interstate. Northbound traffic was being diverted at I-55 @ US 61 ramps which consisted of monitoring I-55 southbound ramps @ US 61 due to no southbound demand and implementing pattern 64 at US 61 @ US 67-American Legion. The SB LT at US 61 @ American Legion began to fail so an additional 20 seconds were added to the cycle length, giving the time to the SB LT phase. Also, the coordination phase was changed to Phase 4 so that any additional time would go to the northbound movement. At approximately 12:00 pm, three highway patrol officers took control of US 61 @ American Legion. At approximately 12:50 pm, the Northbound I-55 lanes were opened but it wasn't until approximately 1:40 pm when law enforcement released control of US 61 @ American Legion. Due to the shift in demand, diversion plan 87 was downloaded and observations continued. At approximately 3:50 pm, the SB LT queue at US 61 @ American Legion reached just south of US 61 @ Route A. Pattern 87 was implemented at US 61 @ St. Pius and monitoring of the NB RT and SB LT at US 61 @ American Legion continued.
- **Result:** The diversion plans at American Legion accommodated the northbound demand on US 61 and the northbound demand on US 67 and managed queues. The EOC, AE, Communication Staff, Motor Carriers, and the MoDOT Incident Management Coordinator were all notified. The TMC messaged for the event and entered it into TMS to notify the public of the closure. An incident alert, update and cleared were used to notify management of the closures. Traffic for Northbound I-55 at the 162 mile marker queued approximately 6 miles at its peak, but returned to normal almost twenty (20) minutes after all lanes were opened. Traffic for Southbound I-55 at the 171 mile marker queued approximately 3.4 miles, but returned to normal after all lanes were opened. The duration for Southbound I-55 at the 171 mile marker was due to Police conducting the crime scene investigation and having to securely collect and package over one hundred (100) rounds of shell casings.
- **Event Duration (Southbound I-55 at 197 mile marker):** 3 hours 19 minutes
- **Event Duration (Northbound I-55 at 162 mile marker):** 3 hours 13 minutes
- **Event Duration (Southbound I-55 at 171 mile marker):** 13 hours 58 minutes




INCIDENT MANAGEMENT

Major Impact Traffic Incidents and Mitigation

Southbound I-55 past I-255 	Left Shoulder	Lane 1	Lane 2	Lane 3	Lane 4	Right Shoulder
Closed Hours/Minutes	0:00	0:00	0:00	0:18	3:19	3:19

Northbound I-55 past I-255 	Left Shoulder	Lane 1	Lane 2	Lane 3	Lane 4	Right Shoulder
Closed Hours/Minutes	0:00	0:00	0:00	0:18	3:13	3:13

Southbound I-55 at MM 171 	Left Shoulder	Lane 1	Lane 2	Right Shoulder
Closed Hours/Minutes	13:58	13:58	13:58	13:58





INCIDENT MANAGEMENT

Major Impact Traffic Incidents and Mitigation

55 N/O AA



55 N/O AA
NORTH



55 AT 67



55 AT 67
NORTH ZOOM





INCIDENT MANAGEMENT

Major Impact Traffic Incidents and Mitigation






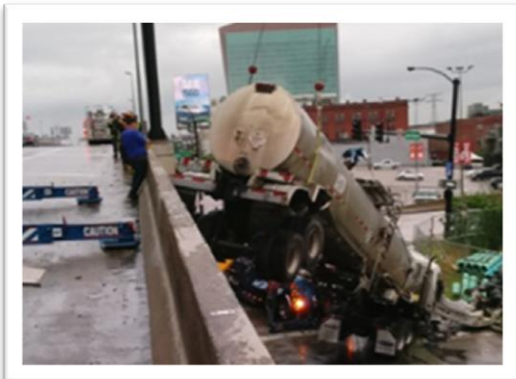
INCIDENT MANAGEMENT

Major Impact Traffic Incidents and Mitigation

7/27/2017 (Thursday)

- **Time:** 7:11 am – 9:26 am *** Weather Related ***
- **Location:** St. Louis City – Eastbound I-44 at Washington Avenue
- **Event:** Vehicle Accident
- **Estimated Initial Impact:** Rush Hour: 1 of 2 travel lanes affected equals (=) 50%
- **Incident Details:** An empty asphalt tanker truck was in lane 2 when the driver lost control on the wet roadway and jackknifed. The tanker portion crossed over into lane 1 and struck a passenger vehicle, pushing it into the center concrete barrier wall. The tractor trailer then traveled off the right side of the roadway where it struck a barrier wall before traveling over it, falling onto the street below with the tanker portion still hanging from I-44. After falling from the overpass, the tractor trailer began to leak diesel fuel onto roadway.
- **Action:** St. Louis City Police, Fire and EMS were the first on scene. TMC operators dispatched two Emergency Response units to assist with traffic control and activated all available message boards. MoDOT Broadway Maintenance was dispatched to apply sand to the fuel spill. The TMC operators also requested the Maintenance Superintendent assess the overpass for any structural damage. The mainline was reopened at 9:26 am, after the passenger vehicle was removed from the scene. Emergency personnel were able to remove the tanker truck while on the right shoulder. Traffic on Eastbound I-44 queued for one mile, while the queue on Northbound I-55 was noted at two miles. It took approximately 26 minutes for traffic to return to normal.
- **Event Duration:** 2 hours 15 minutes


Eastbound I-44 at Washington Avenue	Lane 1	Lane 2	Right Shoulder
			
Closed Hours/Minutes	0:30	0:38	2:15



Major Impact Traffic Incidents and Mitigation

7/27/2017 (Thursday)

- **Time:** 3:30 pm – 5:40 pm
- **Location:** St. Louis County – Northbound I-170 before I-270
- **Event:** Multi-Vehicle Accident
- **Estimated Initial Impact:** Rush Hour: 1 of 2 travel lanes affected equals (=) 50%
- **Incident Details:** A passenger vehicle traveling north on I-170 struck the rear of an SUV causing a chain reaction accident involving six vehicles total. Three people were transported with minor injuries.
- **Action:** Hazelwood Police, Fire and EMS responded as did Christian Northeast EMS and the MSHP who took command of the scene. Emergency Response provided assistance with traffic control and the TMC activated all available message boards. Duration of the incident was extended due to the number of vehicles involved, with three of them having to be towed. Traffic queued for 3 miles, which took approximately 18 minutes to return to normal after the incident cleared
- **Event Duration:** 2 hours 10 minutes

Northbound I-170 before I-270 	Lane 1	Lane 2	Right Shoulder
Closed Hours/Minutes	0:00	1:52	2:10


8/2/2017 (Wednesday)

- **Time:** 3:45 pm – 4:52 pm
- **Location:** St. Louis City – Westbound I-70 past Tucker Boulevard (Stan Musial Veterans Memorial Bridge)
- **Event:** Overtaken Tractor Trailer
- **Estimated Initial Impact:** Rush Hour: 2 of 2 travel lanes affected equals (=) 100%
- **Incident Details:** A tractor trailer hauling non-hazardous materials overturned while maneuvering a curve.
- **Action:** MoDOT Emergency Response was first on scene and made initial notification to the TMC. He closed the right lane of Eastbound I-44 at Madison, which was directly under the incident. IDOT Emergency Response assisted St. Louis City PD with traffic control on the bridge itself. The MSHP responded and took command of the scene. TMC operators activated appropriate DMS boards on both Eastbound I-44 and the bridge. Notifications were made to MoDOT EOC, Motor Carriers, Community Relations, and the AE. The TMC also coordinated with IDOT for updates. Traffic on Westbound I-70 queued two miles as traffic was detoured onto Tucker. Traffic on Eastbound I-44 queued three miles. Duration was extended for three heavy tow trucks needed to upright and remove the vehicle.
- **Event Duration:** 1 hour 7 minutes



INCIDENT MANAGEMENT

Major Impact Traffic Incidents and Mitigation


Westbound I-70 past Tucker Boulevard 	Left Shoulder	Lane 1	Lane 2	Right Shoulder
Closed Hours/Minutes	1:07	1:07	1:07	1:07



Major Impact Traffic Incidents and Mitigation

8/15/2017 (Tuesday)

- **Time:** 2:28 am – 8:58 am
- **Location:** St. Charles County – Westbound I-70 at Route T/W
- **Event:** Two-Vehicle Accident
- **Estimated Initial Impact:** Non-Rush Hour: 2 of 2 travel lanes affected equals (=) 100%
- **Incident Details:** TMC operators heard an accident being dispatched while monitoring scanner traffic. They checked the area via CCTV's and were able to locate the accident which occurred just east of the exit ramp to Route T/W. Two tractor trailers had been traveling west on I-70 when one traveled off the left side of the roadway. The driver overcorrected causing the vehicle to overturn. The second semi struck the trailer portion of the first vehicle. The overturned tractor trailer was hauling several thousand riding lawnmower tires, and the top of the trailer ripped open allowing the tires to spill into the center median. The second semi was hauling large logs which broke loose and fell onto the interstate. This resulted in a total closure of Westbound I-70.
- **Action:** Foristell PD, Wentzville FD, and St. Charles County Ambulance District responded, as did the MSHP who took command of the scene. The TMC entered the accident into ATMS which populated it onto the Traveler Map, and activated all appropriate message boards within one minute to alert the traveling public. Emergency Response was dispatched to assist with traffic control, and traffic was diverted off at Route T/W, doing an up and over back onto the interstate. Due to size and amount of logs that were on the roadway, TMC operators contacted the MSHP to see if they wanted MoDOT maintenance to respond to assist with cleanup. They initially declined, advising that the tow company would handle it. However, MoDOT maintenance later responded to assist. As rush hour approached, two additional Emergency Response units responded, as did the ER supervisor, and the MoDOT Incident Management Coordinator. ER placed incident ahead warning signs up approximately four miles east of the scene. Police directed traffic at the top of the exit ramp until a traffic engineer arrived at the TMC and began managing the signals to favor exiting traffic. Notifications were made to the MoDOT EOC, Motor Carriers, AE, Community Relations, and the i70IM was sent out. Initially, due to the time of day and the placement of the up and over diversion, traffic queue was minimal. However, at the height of rush hour, the queue was estimated to be approximately 3 ½ miles, west of Wentzville Parkway.
- **Event Duration:** 6 hours 30 minutes

Westbound I-70 at Route T/W	Left Shoulder	Lane 1	Lane 2	Right Shoulder
				
Closed Hours/Minutes	6:13	6:13	6:05	6:30



INCIDENT MANAGEMENT


Major Impact Traffic Incidents and Mitigation



Major Impact Traffic Incidents and Mitigation

8/16/2017 (Wednesday)


- **Time:** 9:41 am – 2:31 pm
- **Location:** St. Louis County – Westbound I-44 before MO 141
- **Event:** Single-Vehicle Accident
- **Estimated Initial Impact:** Non-Rush Hour: 2 of 3 travel lanes affected equals (=) 67%
- **Incident Details:** A commercial vehicle left a boom up and struck the Maritz Road overpass causing substantial damage to the overpass. The vehicle continued west for some distance before finally pulling over. The boom, which broke free from the vehicle, fell into lanes 2 and 3 and required a heavy tow to remove.
- **Action:** St. Louis County PD responded as did Emergency Response who provided assistance with traffic control, and closed the Maritz overpass until inspectors could arrive to check structural integrity. The TMC activated appropriate message boards to notify drivers of the closure. The MoDOT Incident Management Commander, Community Relations, and inspectors with Hampton Bridge were all notified. MoDOT maintenance responded to assist with cleanup. After the overpass was inspected, both directions were reopened, but the shoulder remained closed for repairs. One tow company responded to remove the boom from the interstate, but it was determined they did not have the proper equipment to handle the job. A heavy tow was requested, which contributed to the duration of the incident. Traffic queued for 2.5 miles, but quickly cleared once all lanes were reopened.
- **Event Duration:** 4 hours 30 minutes

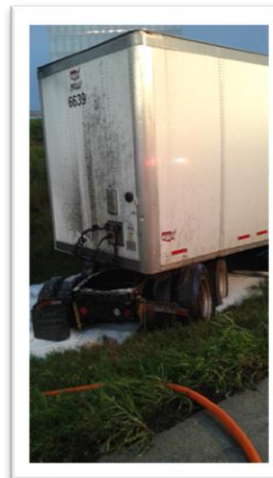
Westbound I-44 before MO 141	Left Shoulder	Lane 1	Lane 2	Lane 3	Right Shoulder
					
Closed Hours/Minutes	0:00	0:00	4:10	4:46	4:46

Major Impact Traffic Incidents and Mitigation

8/16/2017 (Wednesday)

- **Time:** 7:26 pm – 11:14 pm ***Hazmat***
- **Location:** St. Louis County – Westbound I-64 before Boones Crossing
- **Event:** Vehicle Accident with Overturned Tractor Trailer
- **Estimated Initial Impact:** Non-Rush Hour: 2 of 3 travel lanes affected equals (=) 67%
- **Incident Details:** A tractor trailer driver lost control and ran off the right side of the roadway where the vehicle jackknifed. The trailer ripped the cab off and the cab landed in the ditch rupturing the fuel tank. It is estimated the tractor trailer leaked approximately 150 gallons of diesel fuel.
- **Action:** Chesterfield Police Department responded along with Monarch Fire and EMS. MoDOT Emergency Response assisted with traffic control and the TMC activated all appropriate message boards within 2 minutes of being notified. ER put down hazmat socks to block the drains while the Fire Department put foam over the fuel to prevent ignition. DNR was notified due to the amount of fuel leaked. MoDOT maintenance responded with a sweeper to assist in the clean-up of mud from the interstate. While attempting to upright the vehicle, the tow company damaged the pavement of lane #3. Due to the accident happening in a work zone, the project inspector responded to inspect the pavement. It was decided that ER would complete a temporary fix of the pavement damage, and the contractor would repair at a later time. All this contributed to the duration of the incident. The TMC was experiencing system failures which made it difficult to assess the exact impact to traffic. However, the queue was estimated to be less than a mile at its peak.
- **Event Duration:** 3 hours 48 minutes

Westbound I-64 before Boones Crossing	Left Shoulder	Lane 1	Lane 2	Lane 3	Right Shoulder
					
Closed Hours/Minutes	0:00	0:00	3:43	3:48	3:48






INCIDENT MANAGEMENT

Major Impact Traffic Incidents and Mitigation

8/18/2017 (Friday)

- **Time:** 11:26 am – 7:30 pm ***Hazmat***
- **Location:** St. Louis County – Eastbound I-270 at Washington/Elizabeth
- **Event:** Single Vehicle Accident
- **Estimated Initial Impact:** Non-Rush Hour: 1 of 3 travel lanes affected equals (=) 33% + Exit Ramp
- **Incident Details:** A tractor trailer ran off the roadway and punctured both fuel tanks, spilling approximately 150 gallons of diesel fuel.
- **Action:** Florissant Police and Fire were first on scene and made initial notification to the TMC. Three Emergency Response units were dispatched to assist with traffic control. Upon arrival ER units closed 2 right lanes and the exit ramp to Washington/Elizabeth. TMC operators activated all appropriate message boards within a minute of being notified. Notifications were made to the MoDOT Incident Commander, DNR and the AE. Bellefontaine Maintenance was dispatched by the TMC to bring oil dry. Traffic on Eastbound I-270 queued 5.5 miles at the height of rush hour. The TMC extended the message boards back to notify the public of the significant delay. A heavy tow removed the tractor trailer approximately 2 hours into the incident and units were able to open all mainline traffic. However, the exit ramp remained closed an additional six hours. The extended duration was due to the response time for Environmental Restoration, as well as their cleanup time.
- **Event Duration:** 8 hours 4 minutes


Eastbound I-270 at Washington/Elizabeth	Left Shoulder	Lane 1	Lane 2	Lane 3	Exit Ramp	Right Shoulder
						
Closed Hours/Minutes	0:00	0:00	0:29	2:11	8:04	8:04



Major Impact Traffic Incidents and Mitigation

8/26/2017 (Saturday)

- **Time:** 11:41 am – 1:33 pm ***Fatality***
- **Location:** St. Charles County – Eastbound I-70 past Route K
- **Event:** Two-Vehicle Accident
- **Estimated Initial Impact:** Non-Rush Hour: 1 of 3 travel lanes affected equals (=) 33%
- **Incident Details:** Two vehicles traveling east on I-70 when the first struck a piece of metal debris in the roadway. That vehicle sustained minor damage. However, the second vehicle struck the same piece of debris, which was thought to be a metal tie down bar from a tractor trailer. The metal punctured the vehicles fuel tank causing it to burst into flames. The driver was able to pull the vehicle to the side of the roadway. One passenger sustained critical burns and was air lifted to a local hospital where they passed 10 days later. Two passengers suffered moderate burns and were also transported.
- **Action:** O'Fallon Police and Fire, St. Charles County Ambulance District and the MSHP were first on scene and closed all eastbound lanes. The TMC dispatched two MoDOT Emergency Response units to assist with traffic control, and activated appropriate message boards within 2 minutes of being notified of the incident. Traffic was diverted off at Route K, and Police put the signals on flash and directed traffic at the intersection of Route K and Route M. The EOC, ER Supervisor, AE, and Motor Carriers were all notified, and the SL admin text was sent as was the i70IM. Police reopened 2 left lanes and the ramp at 12:42 pm, but held two right lanes for reconstruction. Traffic queue was estimated to be four miles at its peak, but progressively cleared as lanes were reopened.
- **Event Duration:** 1 hour 52 minutes

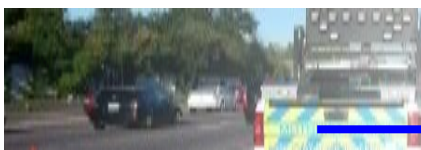
Eastbound I-70 past Route K 	Left Shoulder	Lane 1	Lane 2	Lane 3	Lane 4	Right Shoulder
Closed Hours/Minutes	0:00	1:00	1:00	1:23	1:52	1:52



Major Impact Traffic Incidents and Mitigation

8/26/2017- 08/27/2017 (Saturday-Sunday)


- **Time:** 3:24 pm – 8:20 am
- **Location:** St. Louis County – Northbound/Southbound I-55 at Mattis Road
- **Event:** Train Derailment
- **Estimated Initial Impact:** Rush Hour: 5 of 5 travel lanes affected equals (=) 100% both directions
- **Incident Details:** Missouri State Highway Patrol contacted the TMC advising a Burlington Northern Santa Fe train had derailed over I-55 near Mattis Road. They requested both directions of the interstate be closed due to safety concerns that all train cars may overturn.
- **Action:** Three MoDOT Emergency Response units were dispatched to assist MSHP and the St. Louis County Police with the full closure in both directions. Traffic for northbound was diverted off onto Butler Hill while southbound was diverted off onto Lindbergh Boulevard (US 67). The I-255 westbound and I-270 southbound ramps to I-55 southbound were also closed. The EOC, AE, Communications Staff, Motor Carriers, Maintenance Superintendent, and the MoDOT Incident Management Coordinator were all notified. An i55IM was sent along with a SLAdminText to notify the SL District Leadership Team of the derailment. MoDOT Railroad Safety Inspectors arrived on scene to conduct an investigation. The TMC used DMS message boards along I-270, I-255, I-44, I-55, US 61/67, MO 141 and MO 30 to alert motorists of the closure. Along with messaging on I-55 to the Missouri/Arkansas State Line, IDOT Communications was contacted for messaging. Vehicles were being diverted to Lemay Ferry Road (US 61/67) from the I-55 @ Butler Hill ramps. Southbound I-55 traffic was directed southbound on US 61/67. Local traffic seemed to continue to use Lemay Ferry Road while travelers used the I-55 entrance at Meramec Bottom Road / Baumgartner Road just a little over a mile down from Butler Hill. Traffic Engineers switched the controller to free and changed many of the phases to accommodate the increased vehicle demand. Most notably, phase 6 (Southbound Through) max time of 30 sec was changed to 100 sec and the vehicle extension to 2 seconds at US 61/67 @ Butler Hill Road. The signal was set to free to increase the max times of the northbound/southbound through lanes by an additional 30 seconds and the recall to max. The Eastbound left turn from Butler Hill Road onto US 61/67 was changed from 25 seconds to 40 seconds. Vehicles going northbound were directed off at the Butler Hill Road interstate ramps. The AMI program was used to look into finding a diversion plan. The recommended plan was implemented on the detour route for all signals north of Butler Hill up to Central City signal. The time of day timing plans were change to TP 84. Tweaks to the signals were made throughout the event attempting to alleviate all the congestion.
- **Result:** The changes that were made took little time to start to see improvements, but the additional time at the signals greatly increased the flow of traffic. Due to the high demand, the signal at US 61/67 @ Butler Hill Road was in constant gridlock until after sunset. The southbound traffic was taken care of very easily as there was only one signal to get back on the interstate. The northbound traffic saw a lot of congestion during the peak time, but greatly began to die down later in the day. No other issues were noted. All signals were reverted to their original status promptly at 8:00 am on Sunday morning. Traffic queued approximately 3 miles for northbound lanes, but subsided as time progressed.
- **Event Duration:** (NB) 12 hours 43 minutes (SB) 16 hours 59 minutes



INCIDENT MANAGEMENT

Major Impact Traffic Incidents and Mitigation

Northbound I-55 at Mattis Road	Left Shoulder	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Right Shoulder
							
Closed Hours/Minutes	12:43	12:43	12:43	12:43	12:43	12:43	12:43

Southbound I-55 at Mattis Road	Left Shoulder	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Right Shoulder
							
Closed Hours/Minutes	16:59	16:59	16:59	16:59	16:59	16:59	16:59



5:36 PM



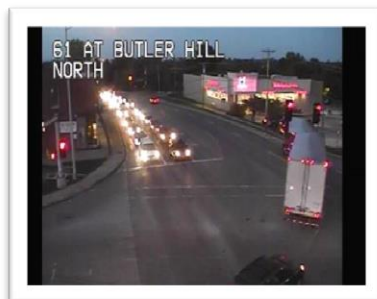
6:12 PM



6:51 PM



7:54 PM

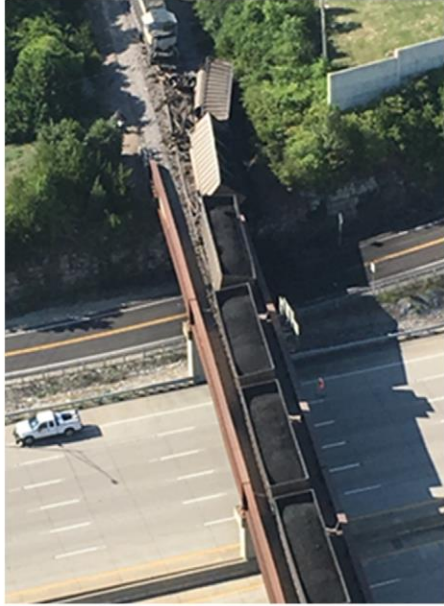


7:55 PM



8:59 PM

Major Impact Traffic Incidents and Mitigation



AM PEAK PERIOD MOBILITY JULY 2017

6 am – 7 am

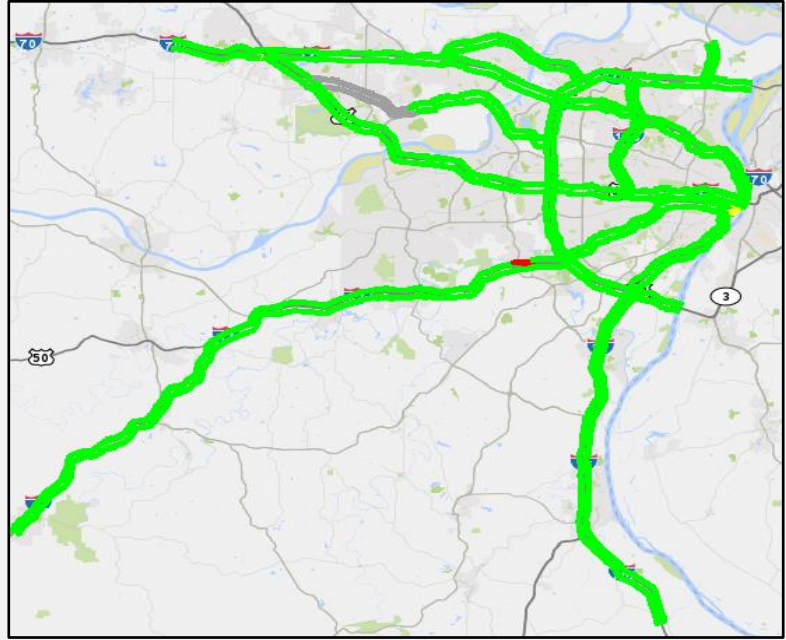
LEGEND (Speed Index)

- High Mobility (.90+)
- Medium Mobility (.80-.90)
- Low Mobility (< .80)

Overall AM Mobility from July to August **DECREASED**

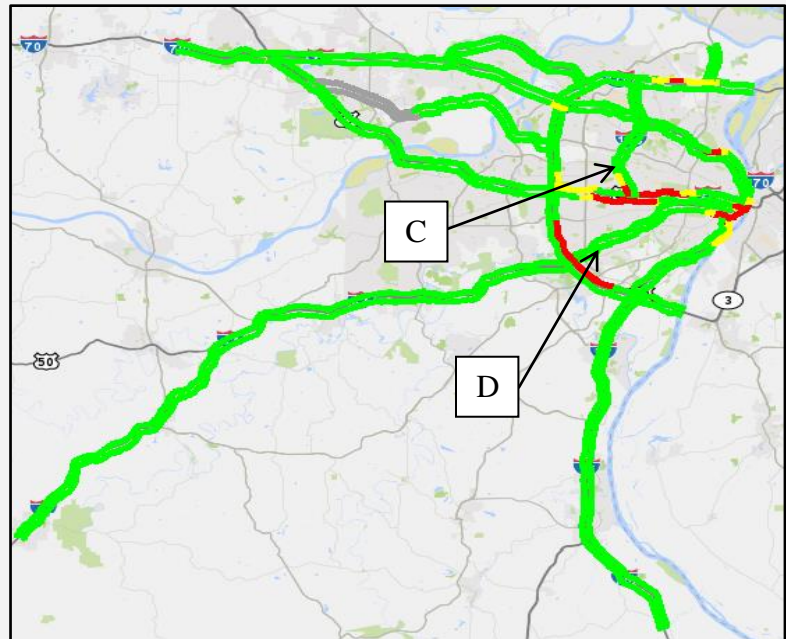
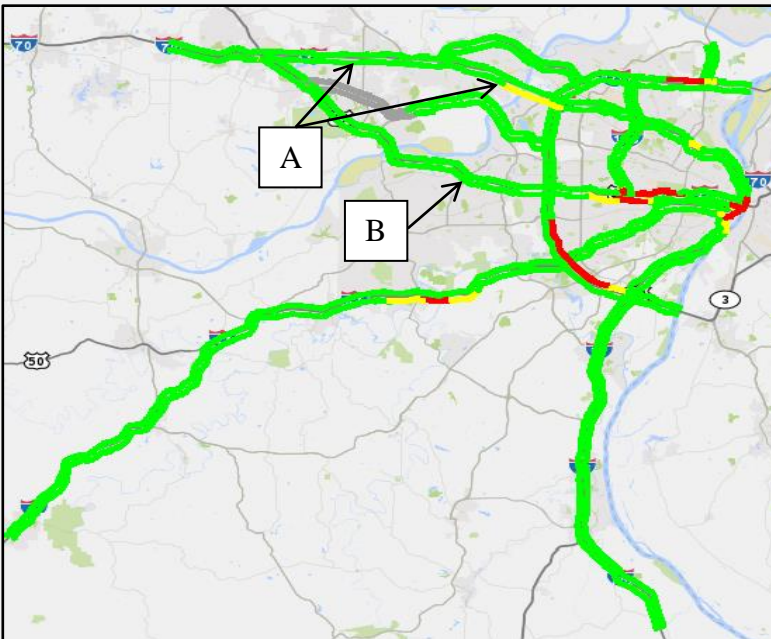
Highlighted Heat Map Locations

- A. EB I-70 from I-64/US-40/US-61 to Lindbergh (p. 35)
- B. EB I-64 from Boones Crossing to McCausland (p. 36)
- C. SB I-170 from St. Charles Rock Rd. to I-64 (p. 37)
- D. EB I-44 from Route 141 to Shrewsbury (p. 38)



7 am – 8 am

8 am – 9 am



AM PEAK PERIOD MOBILITY AUGUST 2017

6 am – 7 am

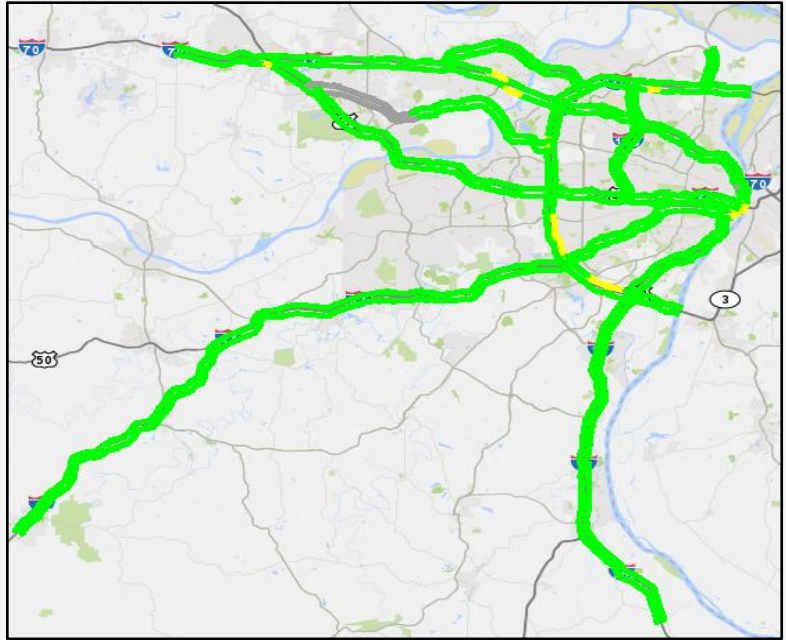
LEGEND (Speed Index)

- High Mobility (.90+)
- Medium Mobility (.80-.90)
- Low Mobility (< .80)

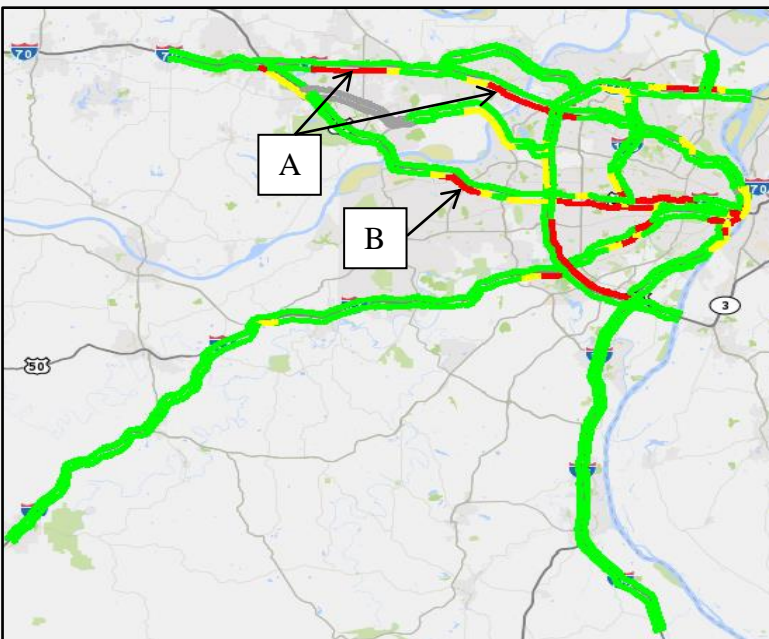
Overall AM Mobility from July to August **DECREASED**

Highlighted Heat Map Locations

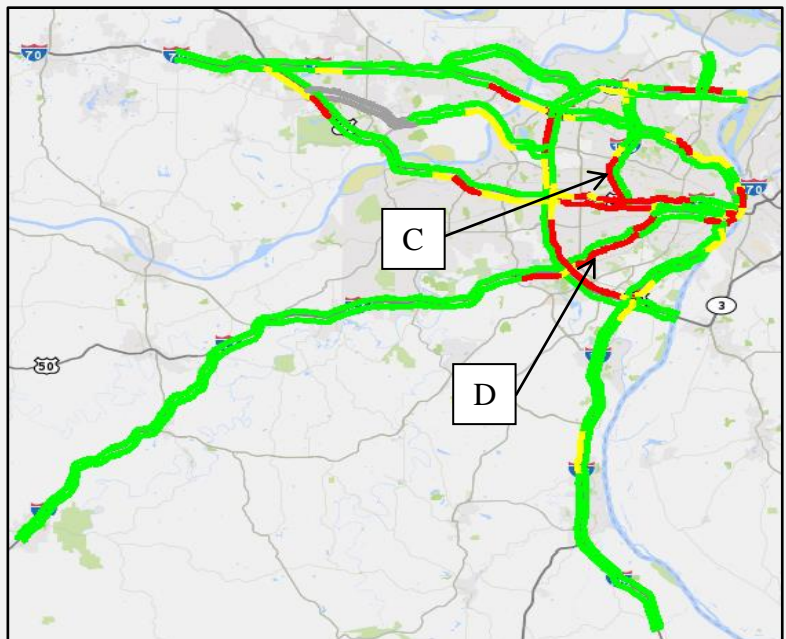
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7 am – 8 am



8 am – 9 am

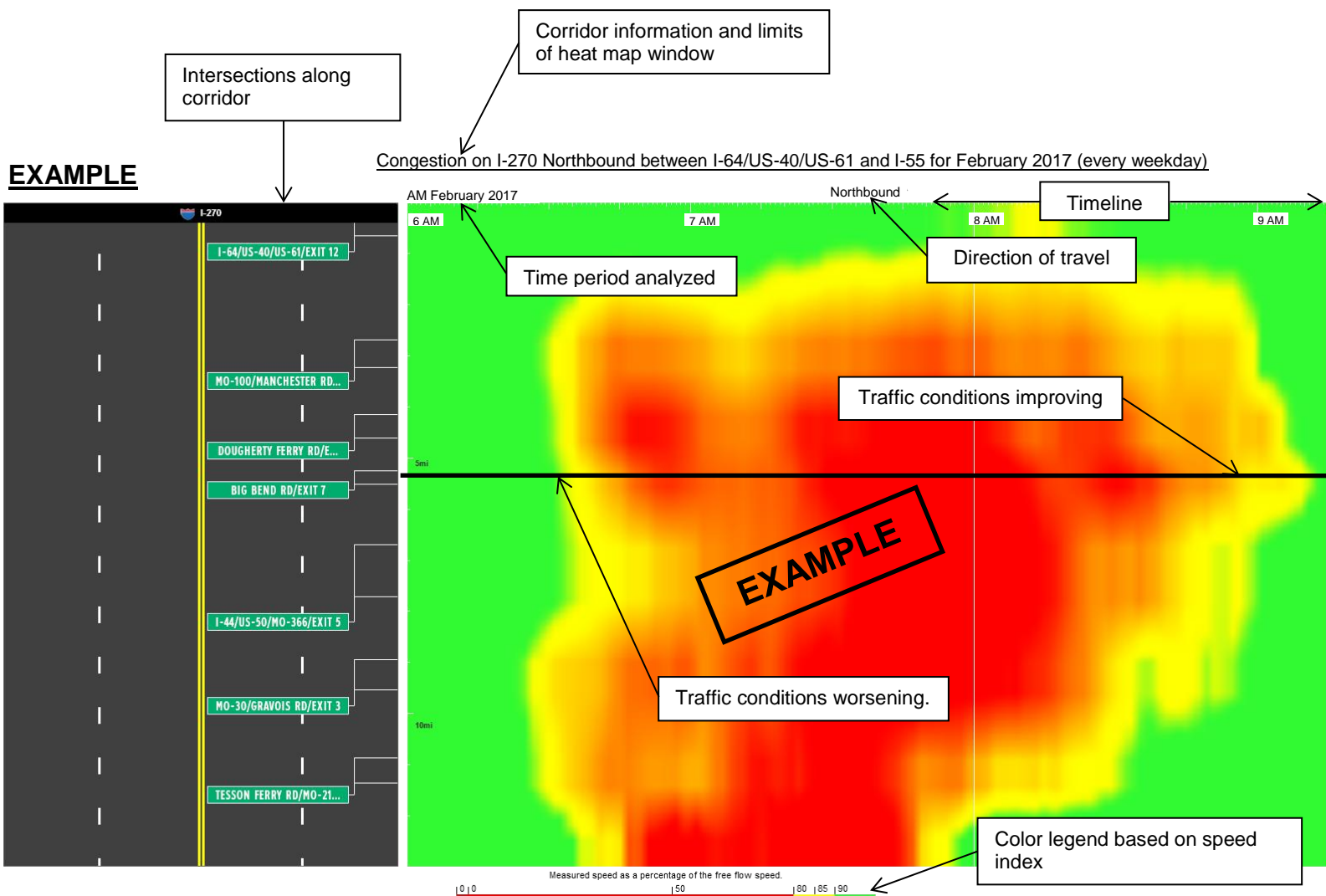


FREEWAY MANAGEMENT

How to read the Congestion Scan Heat Maps

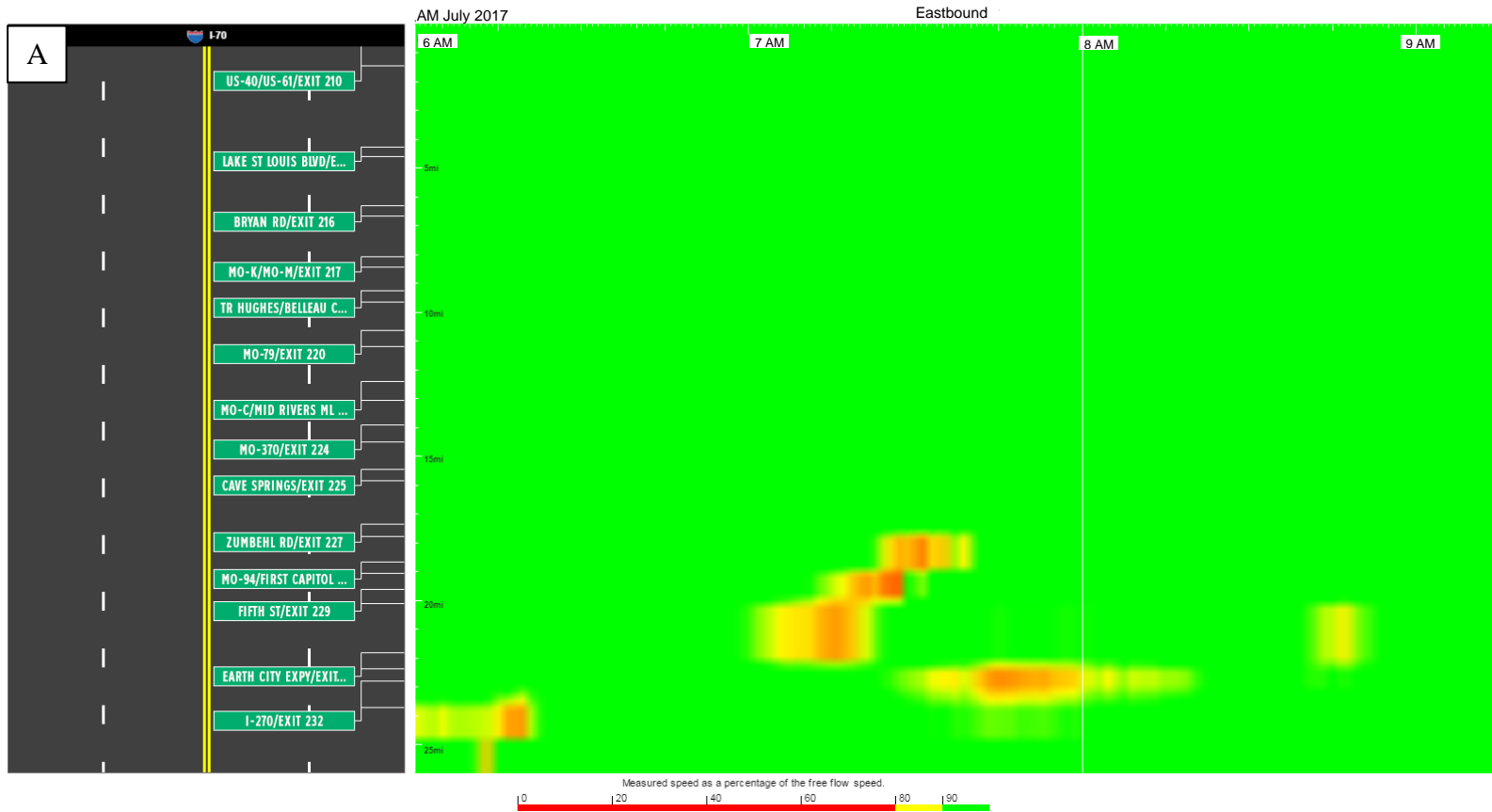
- The heat maps depict congestion along a corridor over a set time period.
- The map below shows Northbound I-270 from I-55 to I-64 during the hours of 6am – 9am for the month of February 2017.
- Following a horizontal line across the heat map at a given intersection will show traffic conditions at that location over time. Using the intersection of Big Bend Road as an example the heat map depicts conditions worsening around 6:30am, starting to improve around 8:45am and near free flow speeds by 9:15am.
- Alternatively, tracing the heat map vertically depicts traffic conditions along the corridor at that moment in time.

EXAMPLE

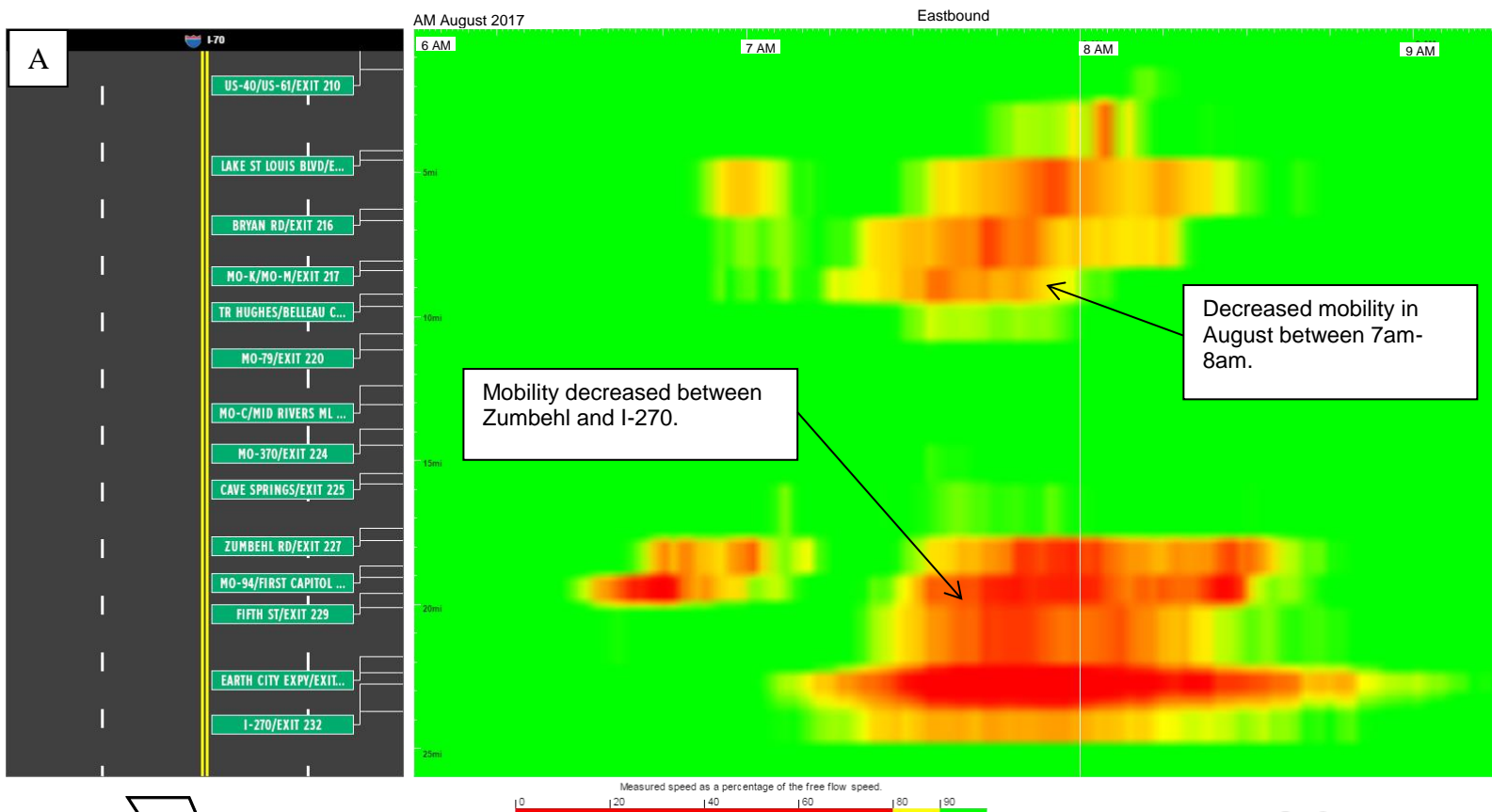


FREEWAY MANAGEMENT

Congestion on I-70 Eastbound between I-64/US-40/US-61 and Lindbergh Blvd July 2017 (every weekday)

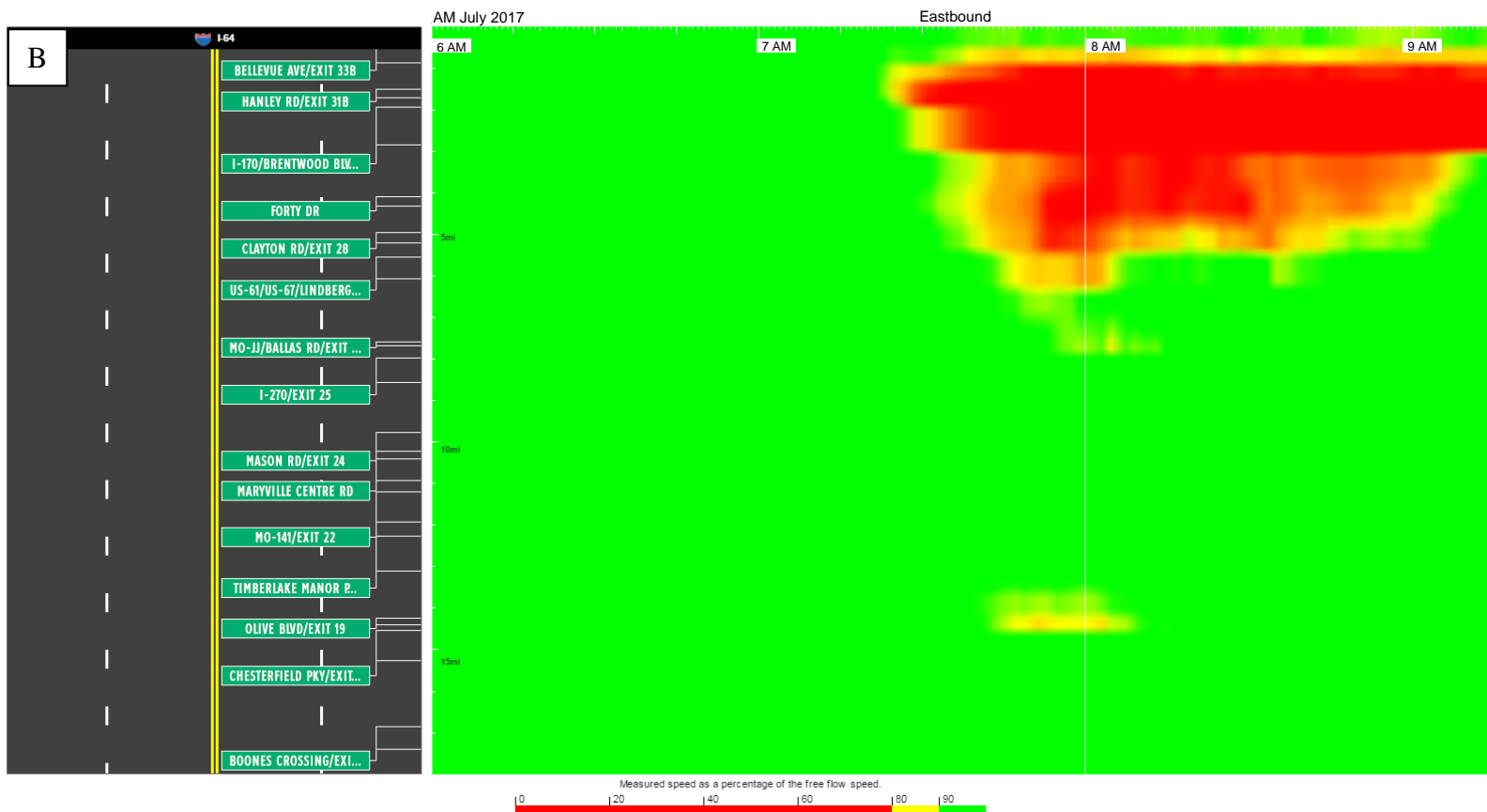


Congestion on I-70 Eastbound between I-64/US-40/US-61 and Lindbergh Blvd August 2017 (every weekday)

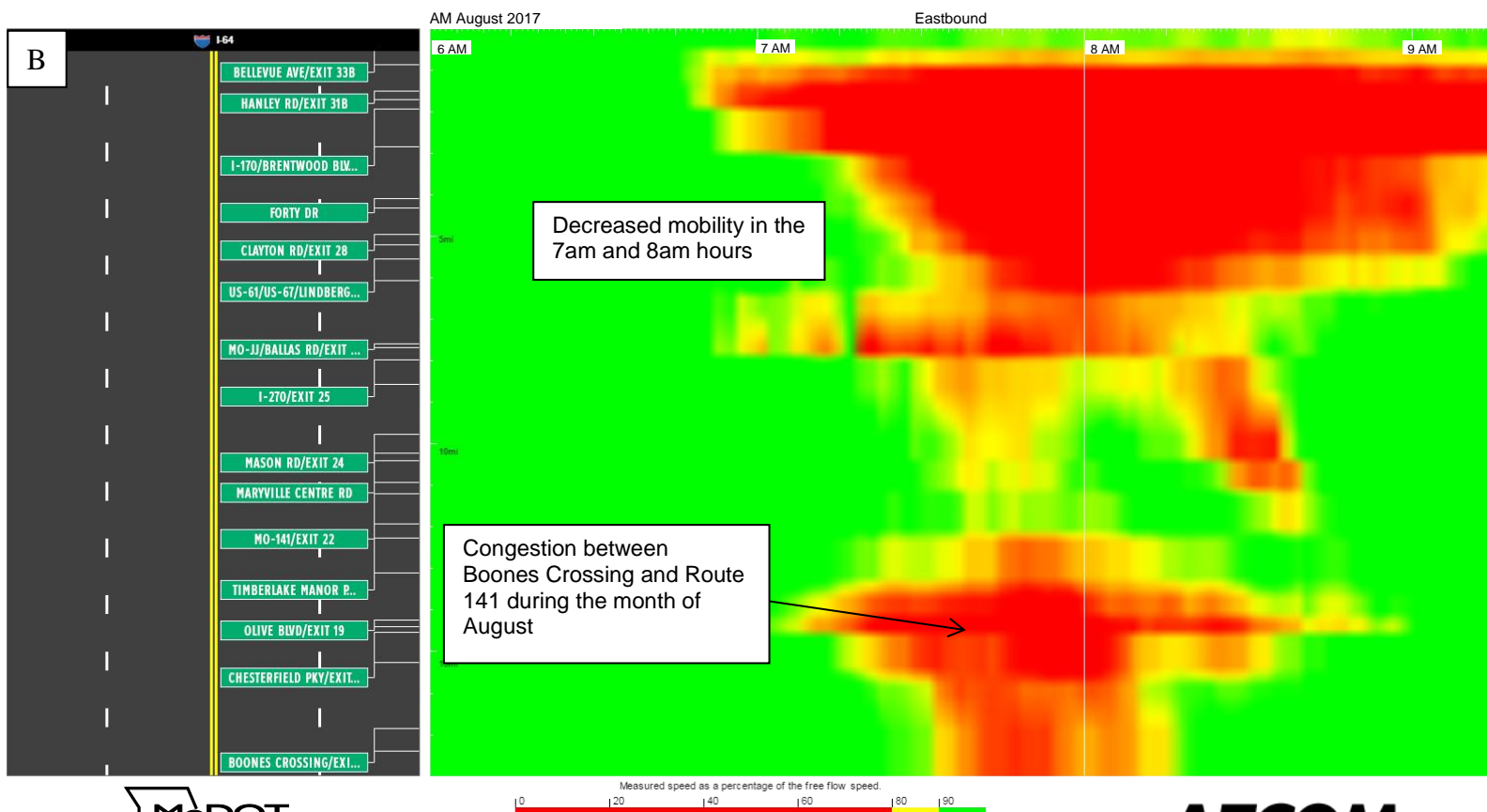


FREEWAY MANAGEMENT

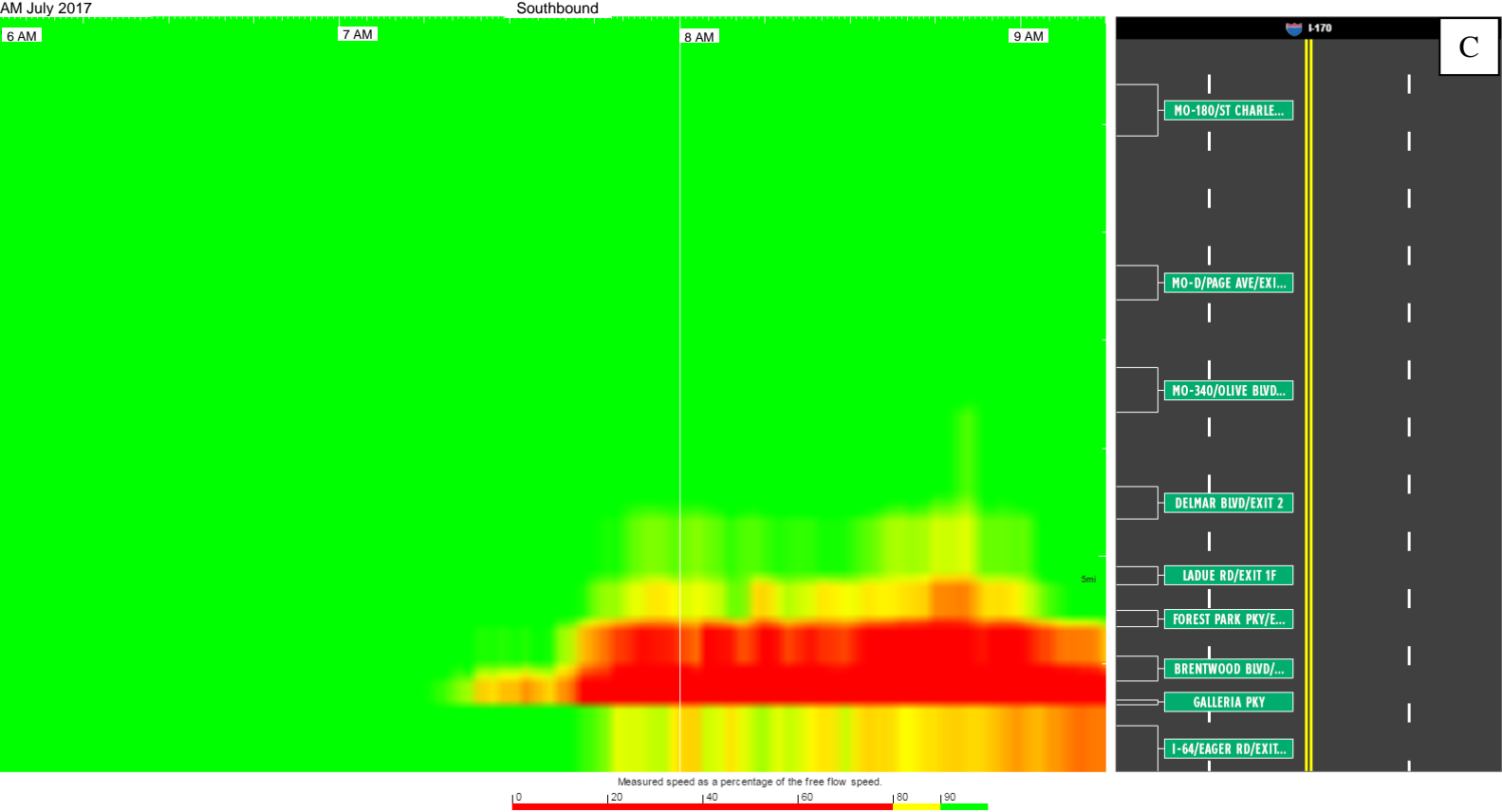
Congestion on I-64 Eastbound between Boones Crossing and McCausland for July 2017 (every weekday)



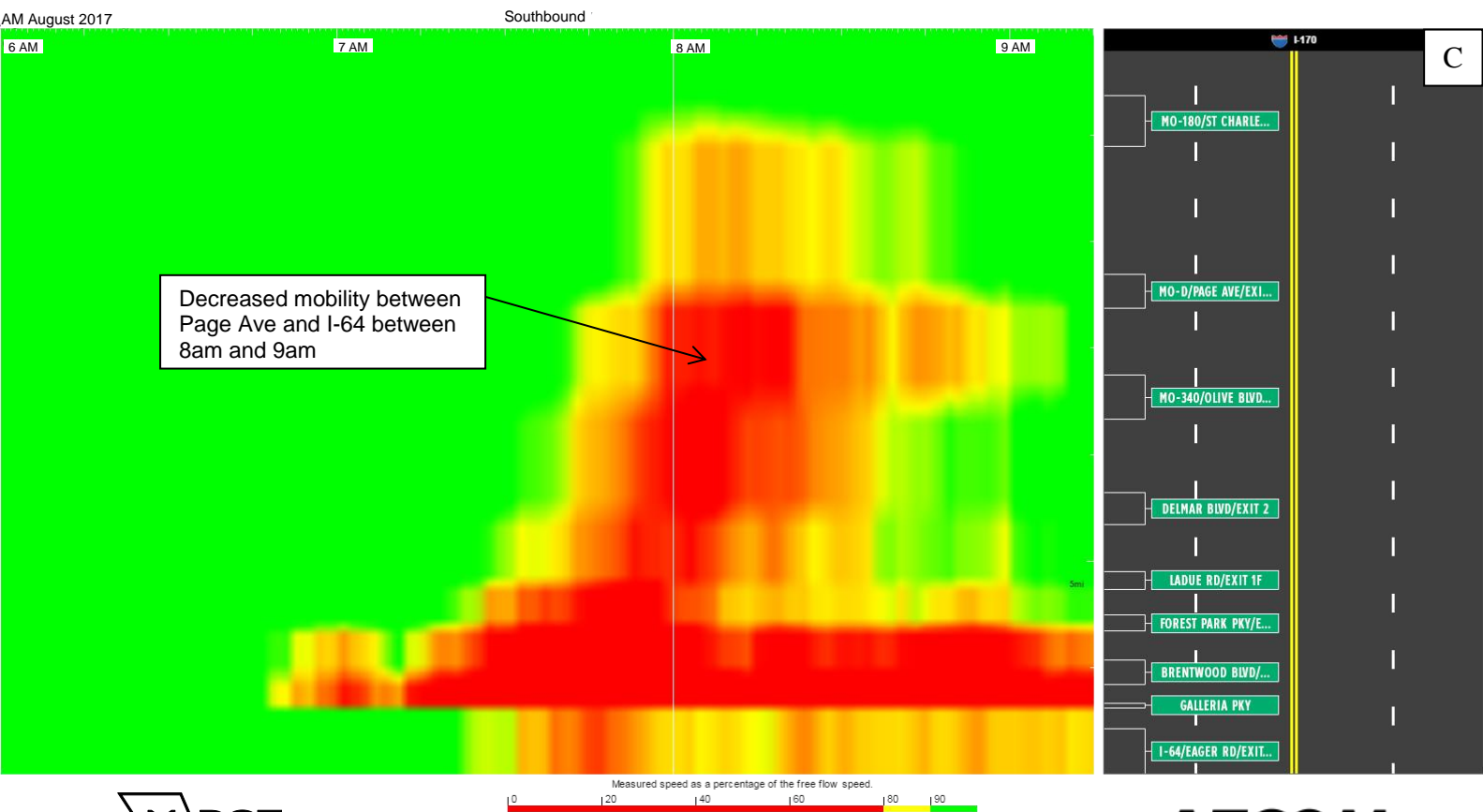
Congestion on I-64 Eastbound between Boones Crossing and McCausland for August 2017 (every weekday)



Congestion on I-170 Southbound between MO-180/St. Charles Rock Road and I-64 for July 2017 (every weekday)



Congestion on I-170 Southbound between MO-180/St. Charles Rock Road and I-64 for August 2017 (every weekday)



FREEWAY MANAGEMENT

Congestion on I-44 Eastbound between Route 141 and Shrewsbury for July 2017 (every weekday)

AM July 2017

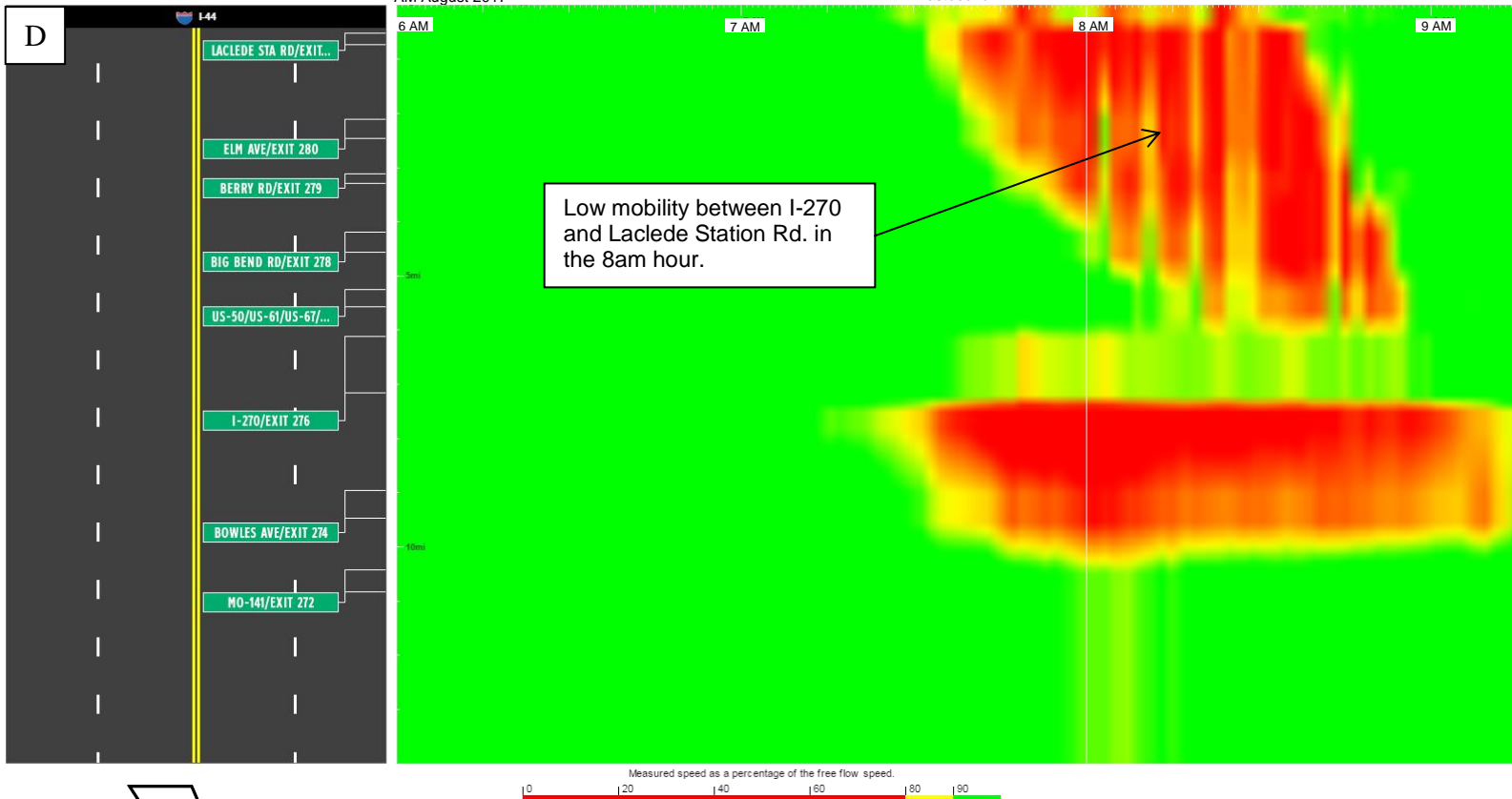
Eastbound



Congestion on I-44 Eastbound between Route 141 and Shrewsbury for August 2017 (every weekday)

AM August 2017

Eastbound





FREEWAY MANAGEMENT

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PM PEAK PERIOD MOBILITY JULY 2017

4 pm – 5 pm

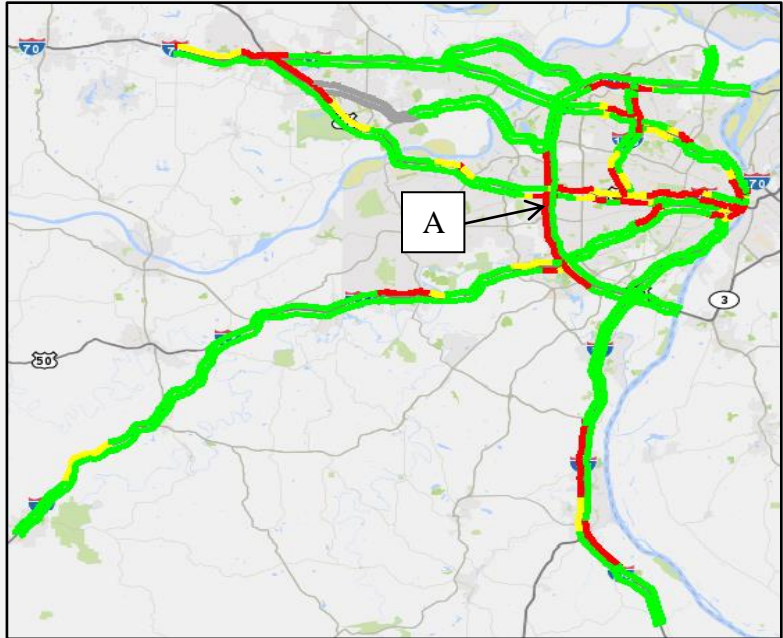
LEGEND (Speed Index)

- High Mobility (.90+)
- Medium Mobility (.80-.90)
- Low Mobility (< .80)

Overall PM Mobility from July to August **DECREASED**

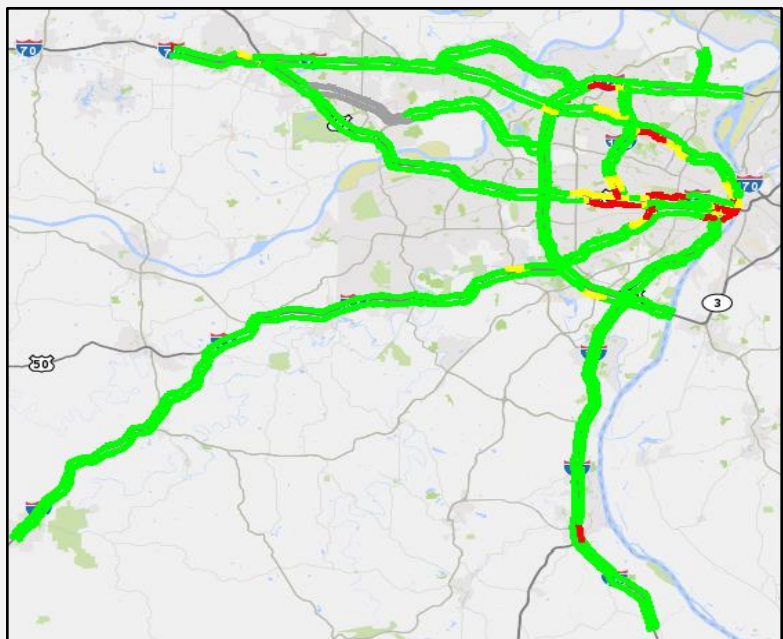
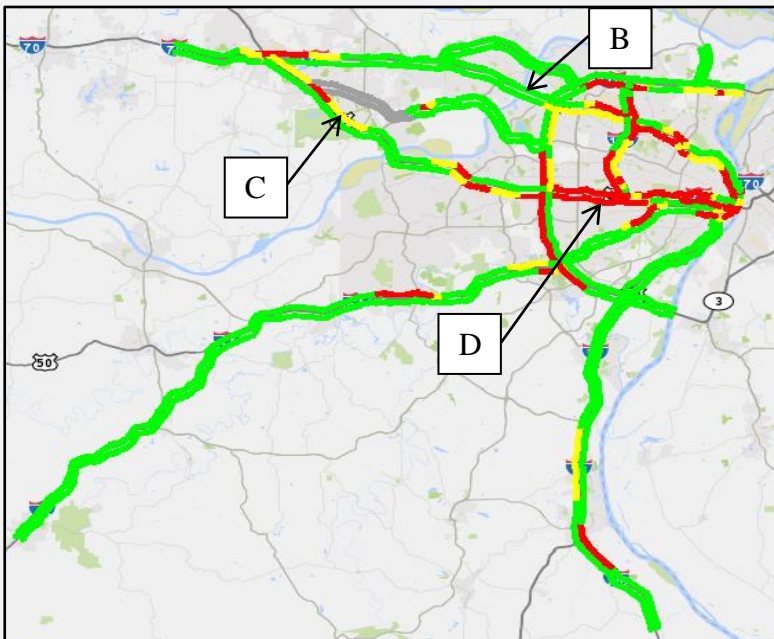
Highlighted Heat Map Locations

- A. SB I-270 from Dorsett to I-55 (p. 42)
- B. WB I-70 from I-170 to Route 370 (p. 43)
- C. WB I-64 from I-55/I-70/US-40(Downtown) to I-70 (p. 44)
- D. EB I-64 from Boones Crossing to McCausland (p. 45)



5 pm – 6 pm

6 pm – 7 pm



PM PEAK PERIOD MOBILITY AUGUST 2017

4 pm – 5 pm

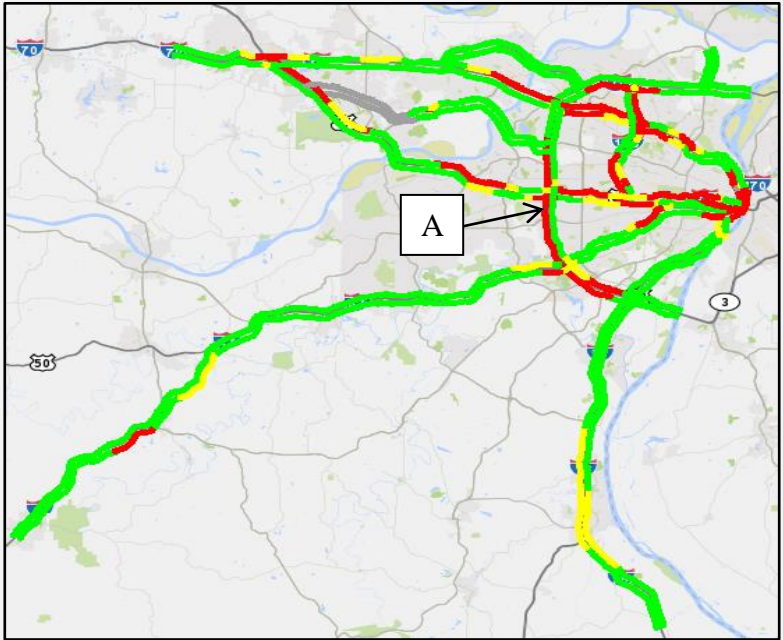
LEGEND (Speed Index)

- High Mobility (.90+)
- Medium Mobility (.80-.90)
- Low Mobility (< .80)

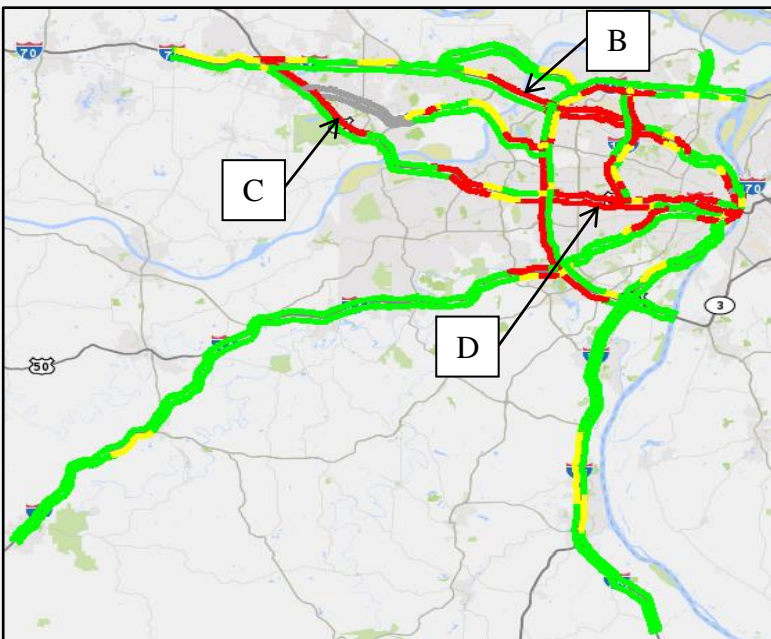
Overall PM Mobility from July to August **DECREASED**

Highlighted Heat Map Locations

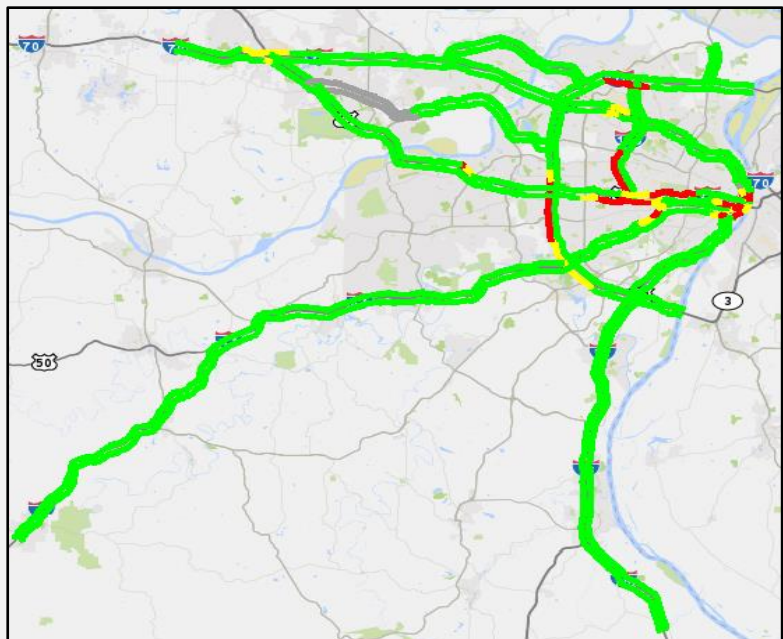
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- B. WB I-70 from I-170 to Route 370 (p. 43)
- C. WB I-64 from I-55/I-70/US-40(Downtown) to I-70 (p. 44)
- D. EB I-64 from Boones Crossing to McCausland (p. 45)



5 pm – 6 pm

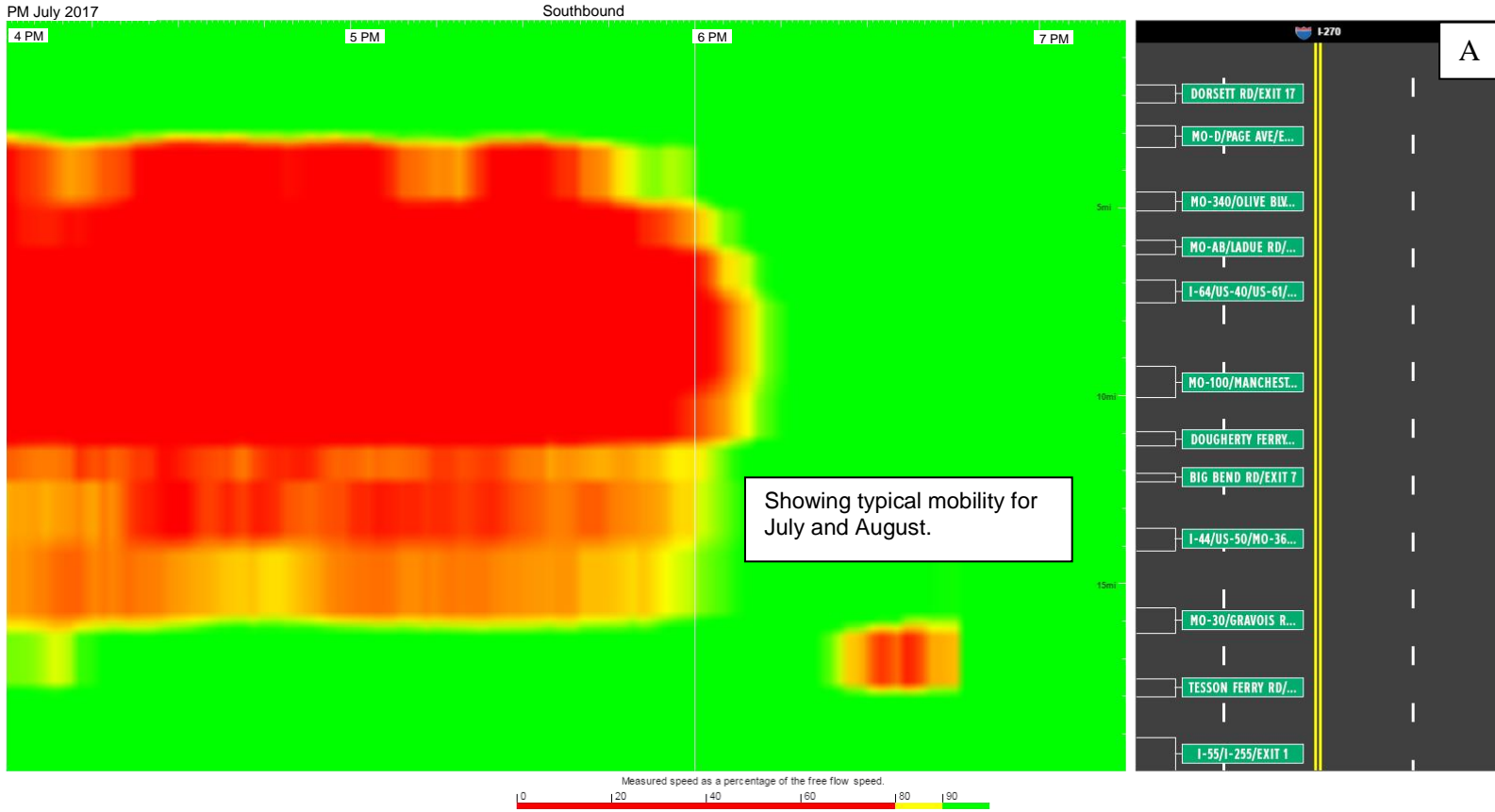


6 pm – 7 pm

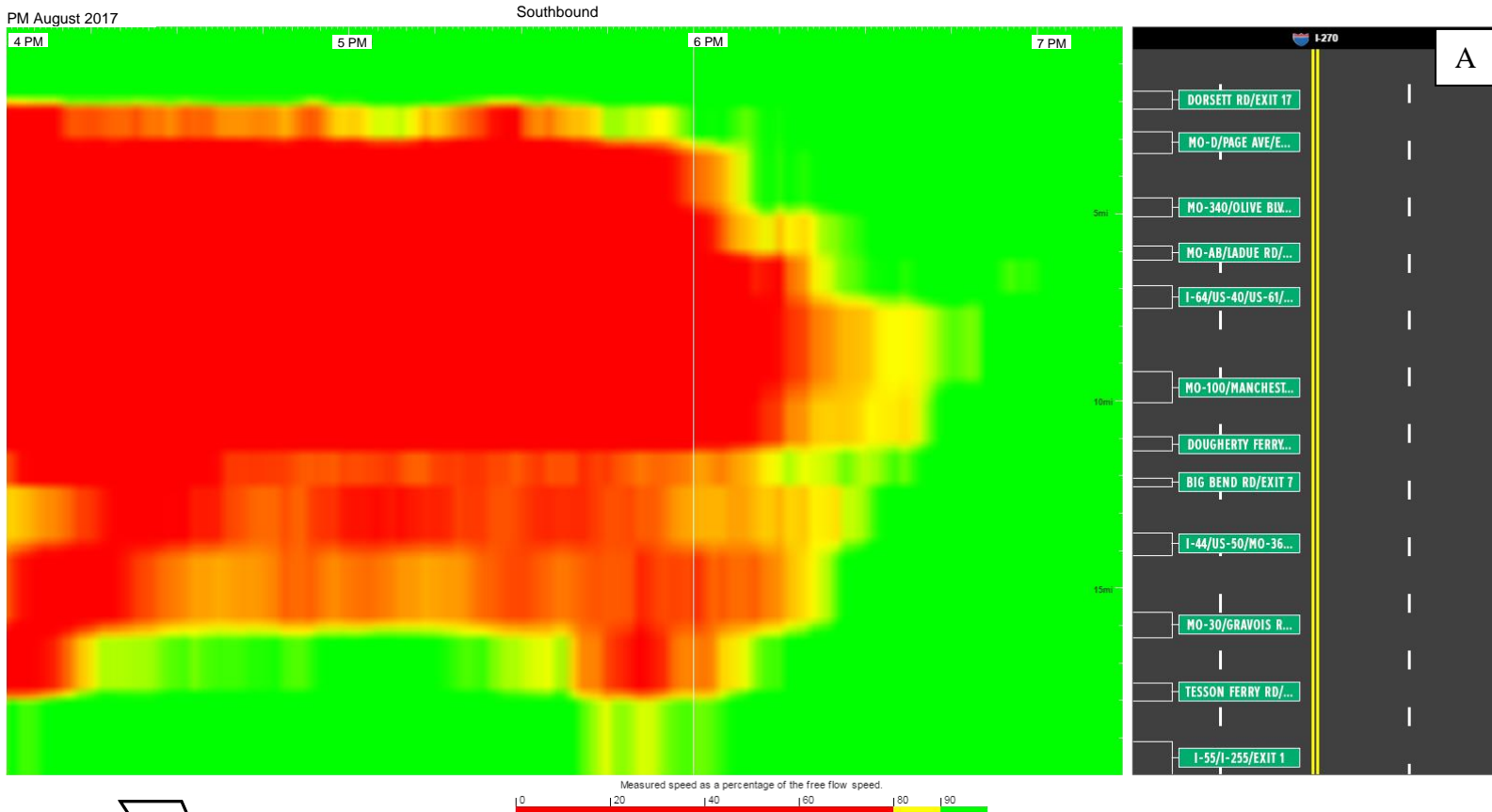


FREEWAY MANAGEMENT

Congestion on I-270 Southbound between Dorsett Rd and I-55 for July 2017 (every weekday)



Congestion on I-270 Southbound between Dorsett Rd and I-55 for August 2017 (every weekday)

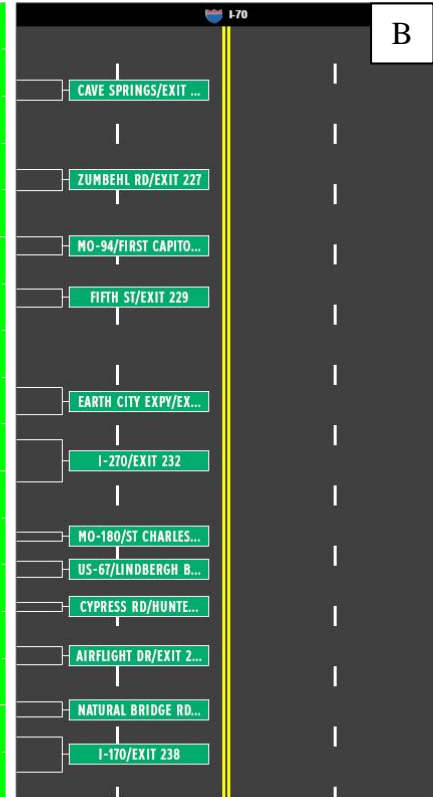
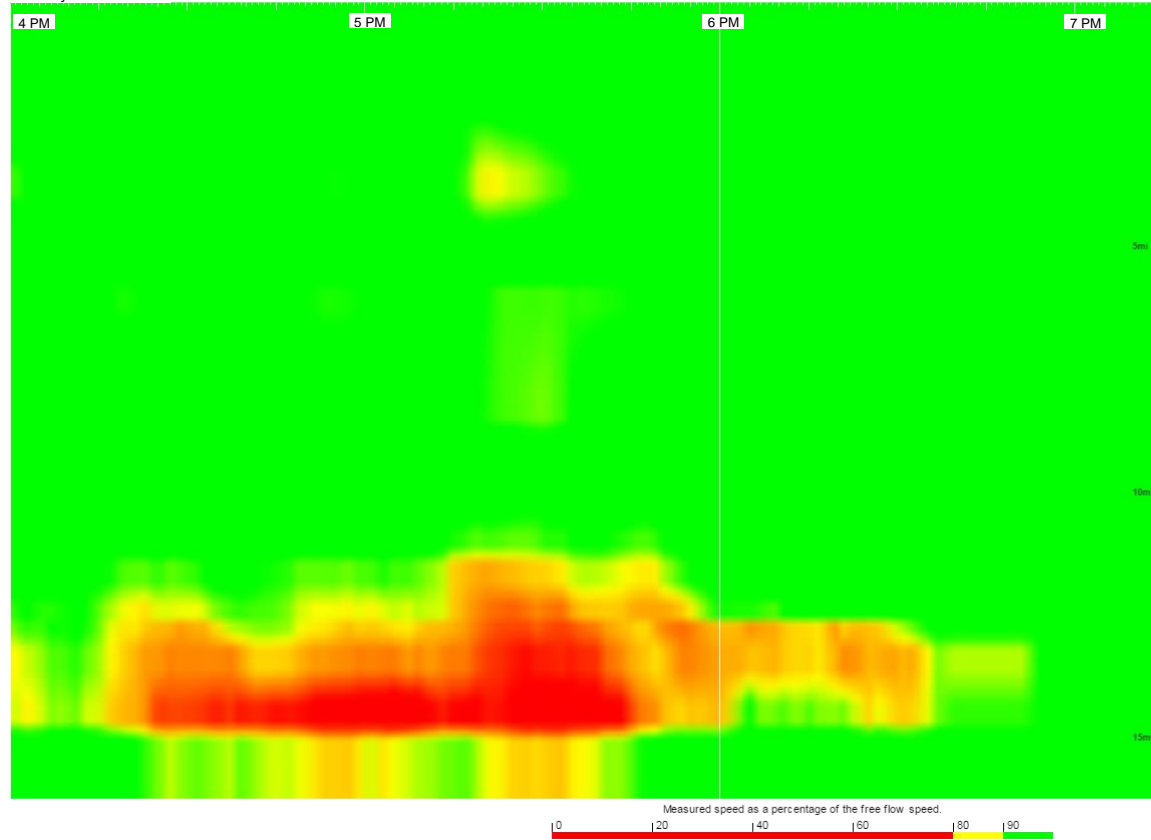


FREEWAY MANAGEMENT

Congestion on I-70 Westbound between I-170 and Route 370 for July 2017 (every weekday)

PM July 2017

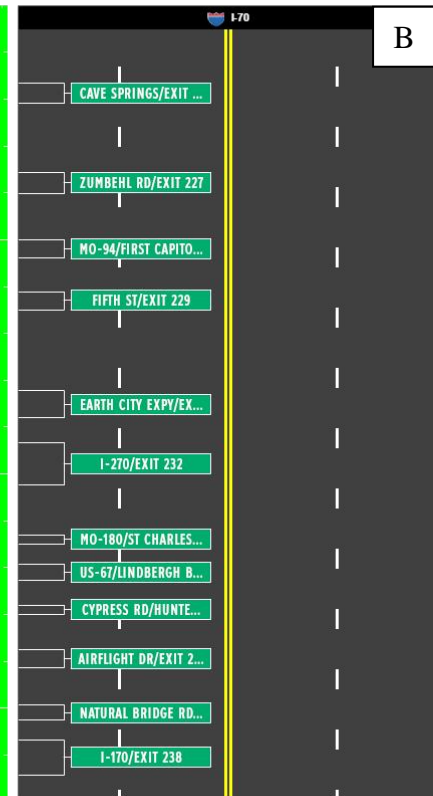
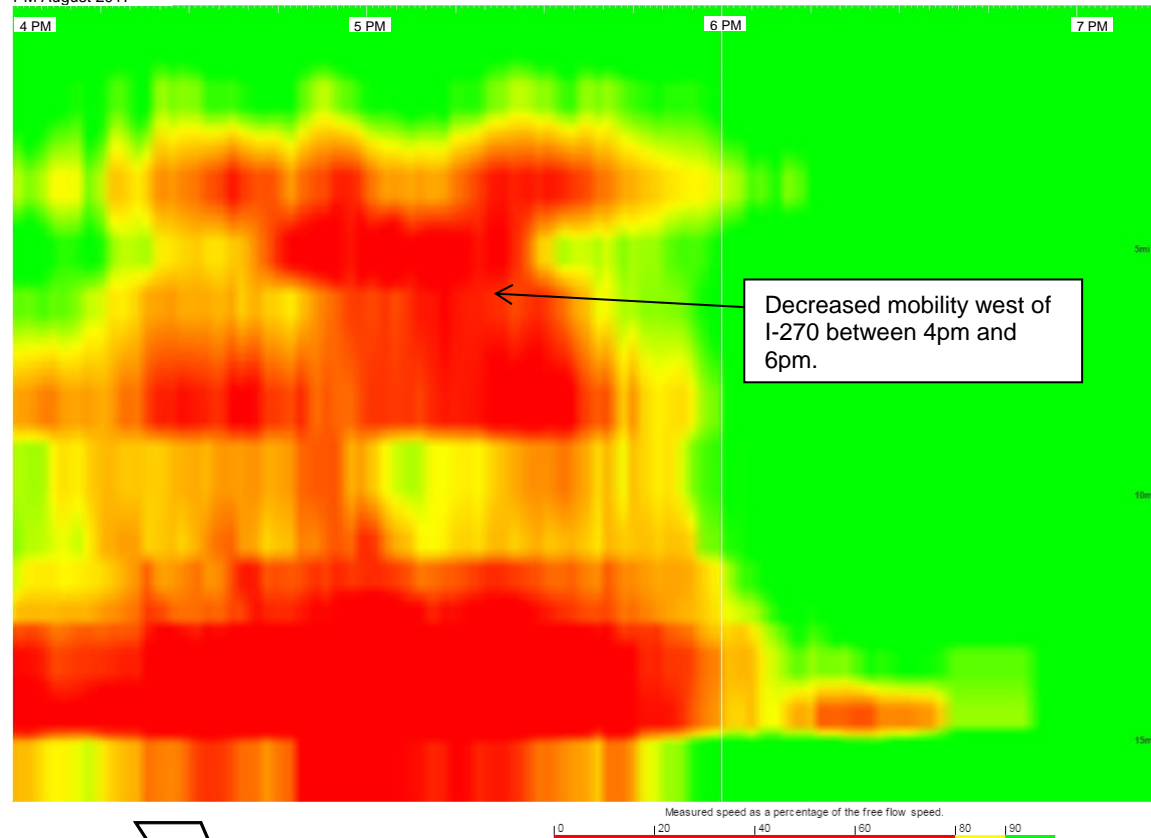
Westbound



Congestion on I-70 Westbound between I-170 and Route 370 for August 2017 (every weekday)

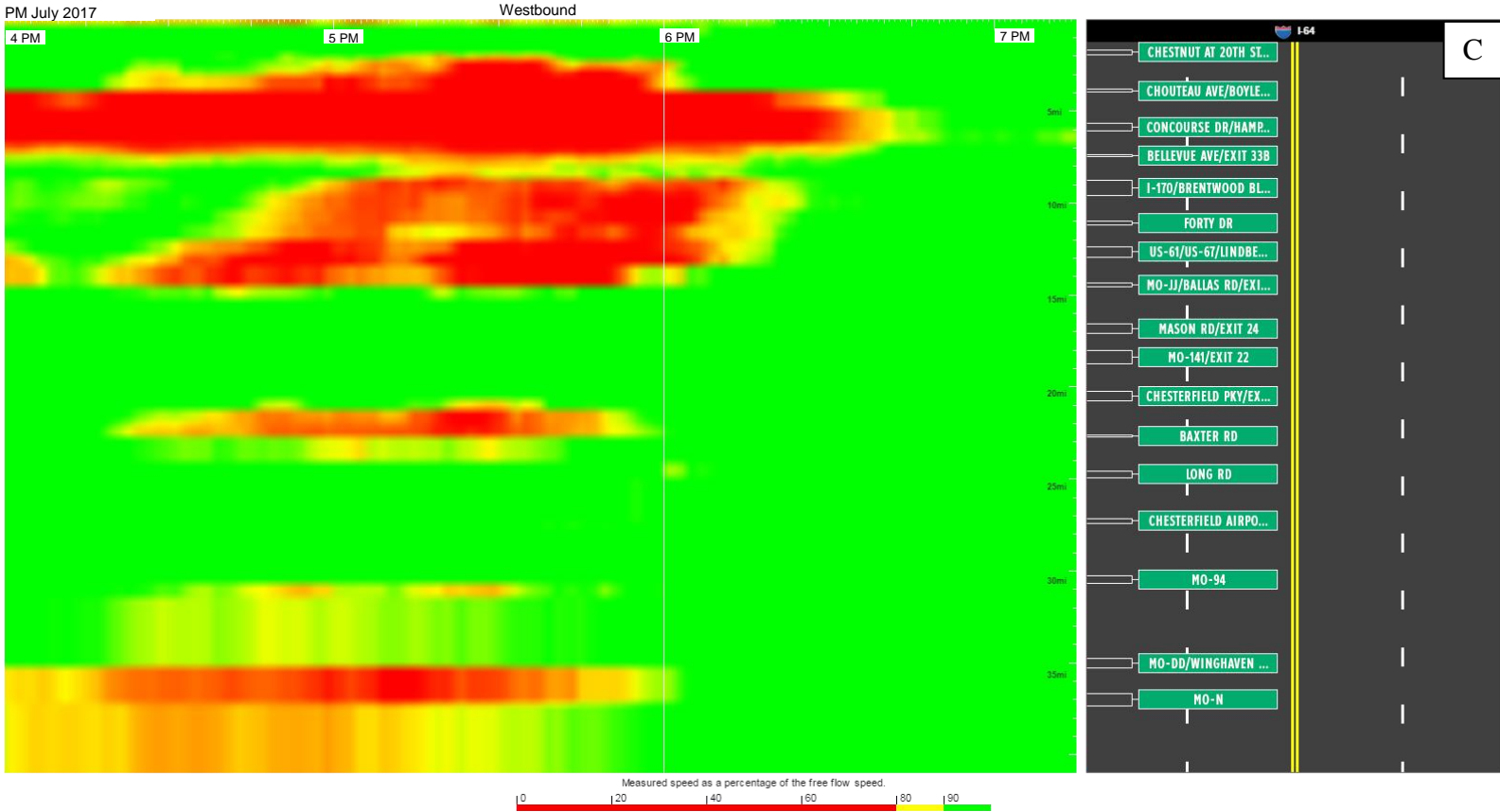
PM August 2017

Westbound

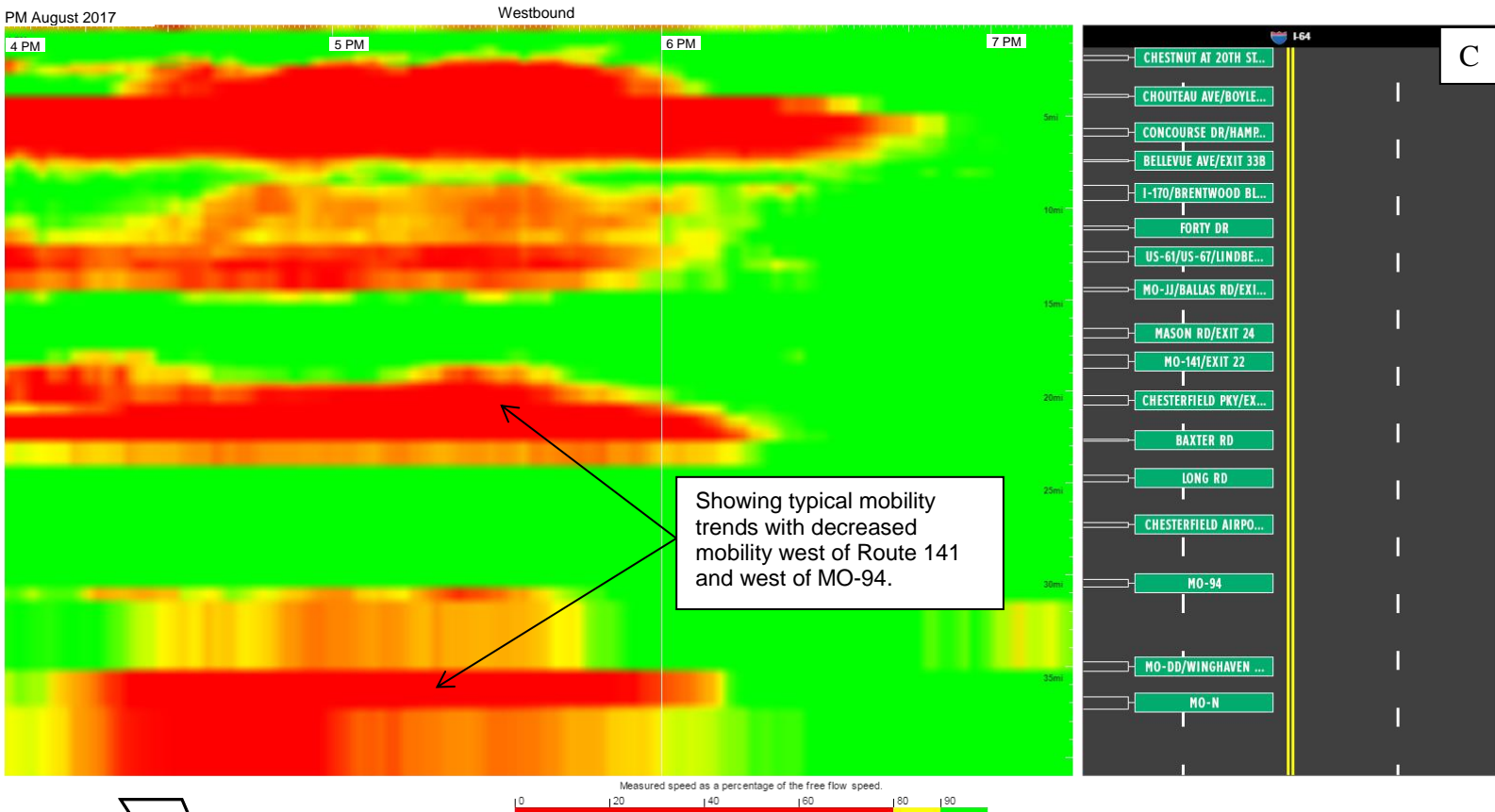


FREeway MANAGEMENT

Congestion on I-64 Westbound between I-55/I-70/US-40 (Downtown) and I-70 for July 2017 (every weekday)

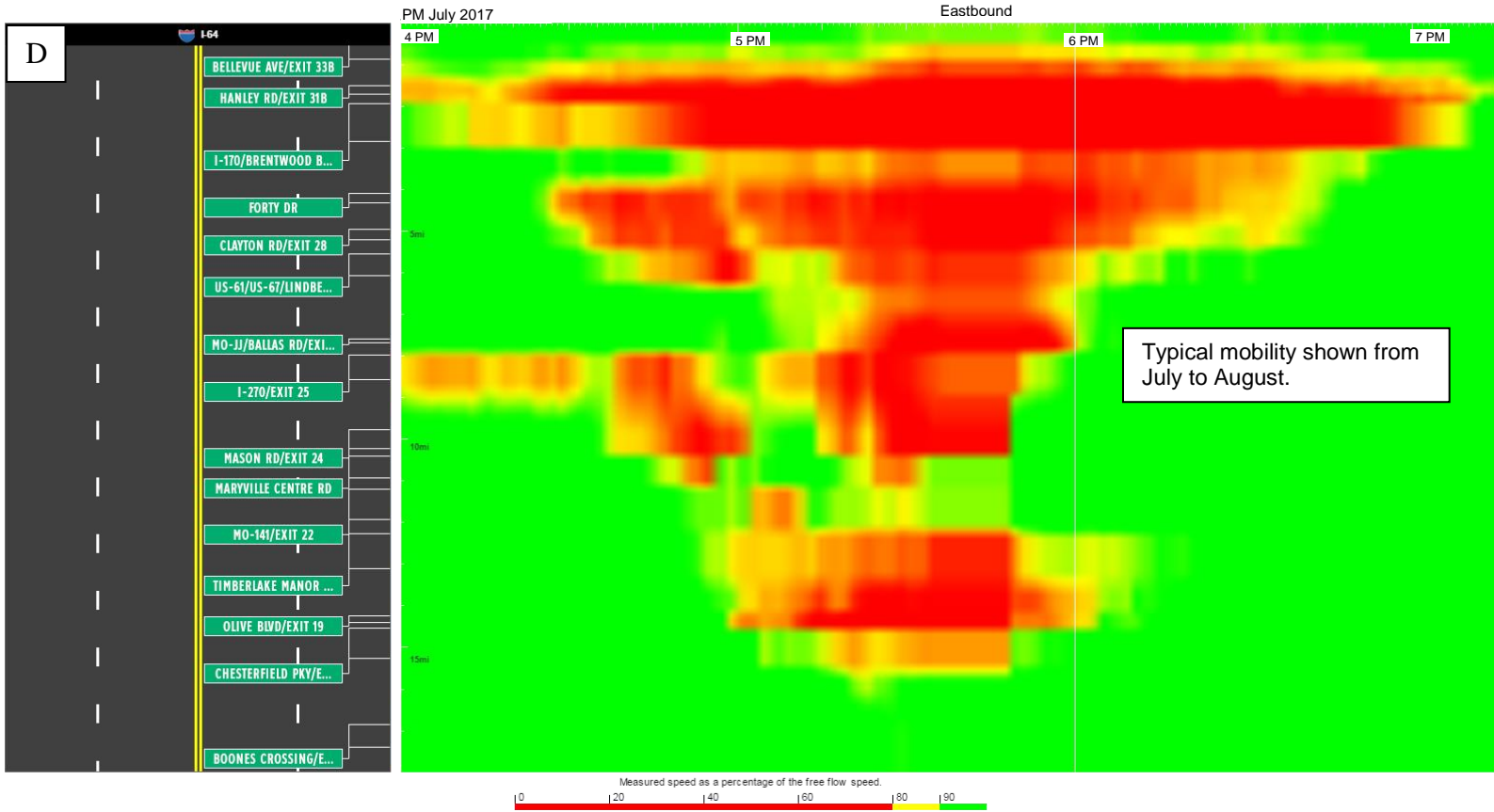


Congestion on I-64 Westbound between I-55/I-70/US-40 (Downtown) and I-70 for August 2017 (every weekday)

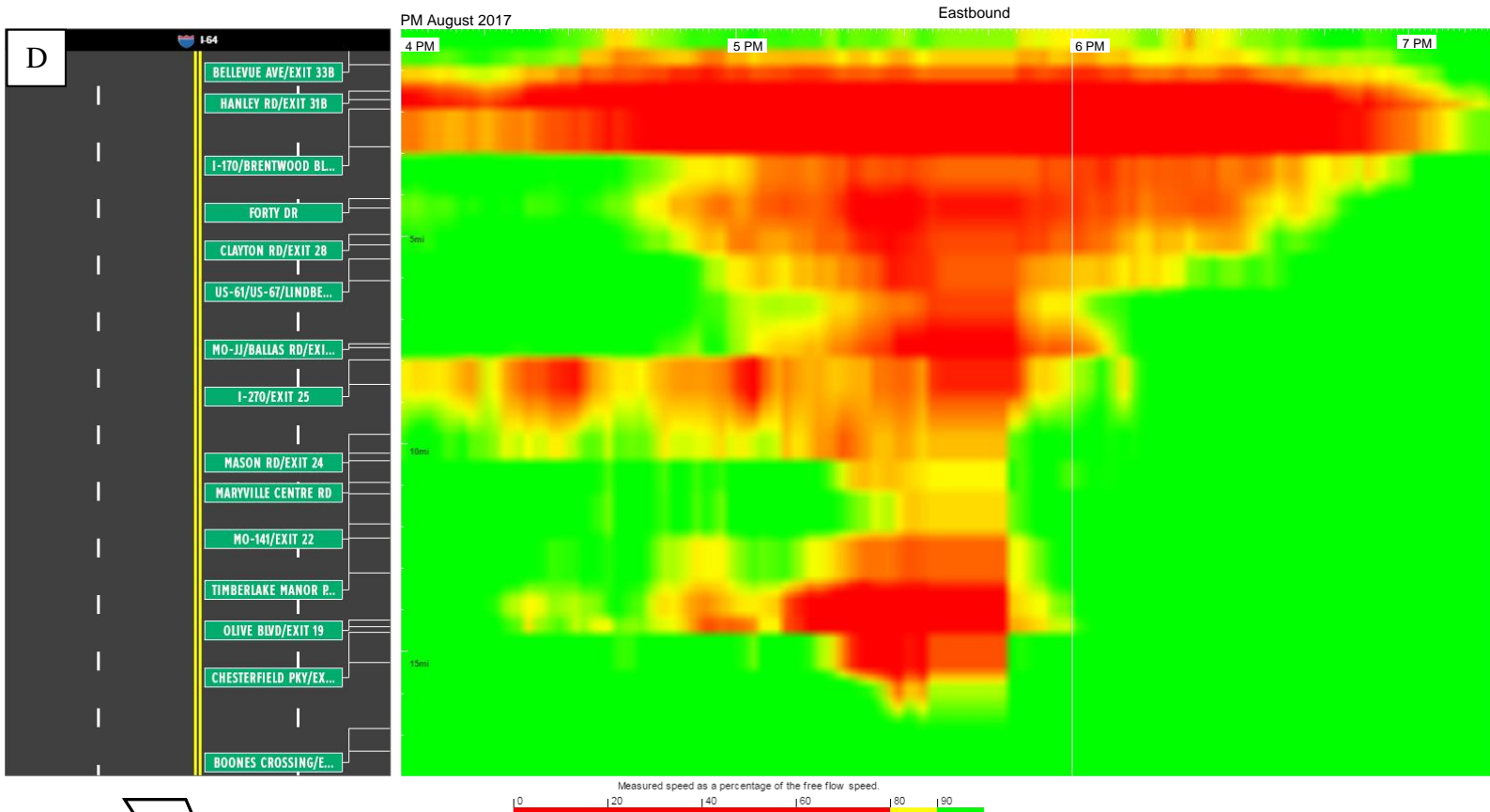


FREEWAY MANAGEMENT

Congestion on I-64 Eastbound between Boones Crossing and McCausland for July 2017 (every weekday)

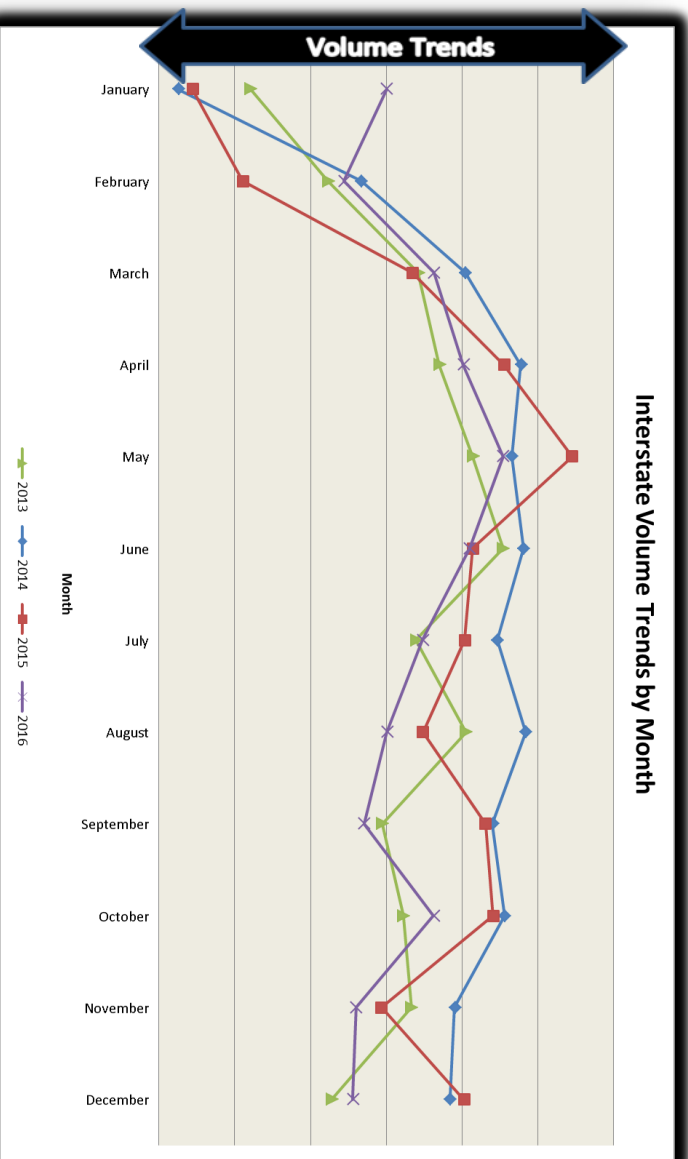
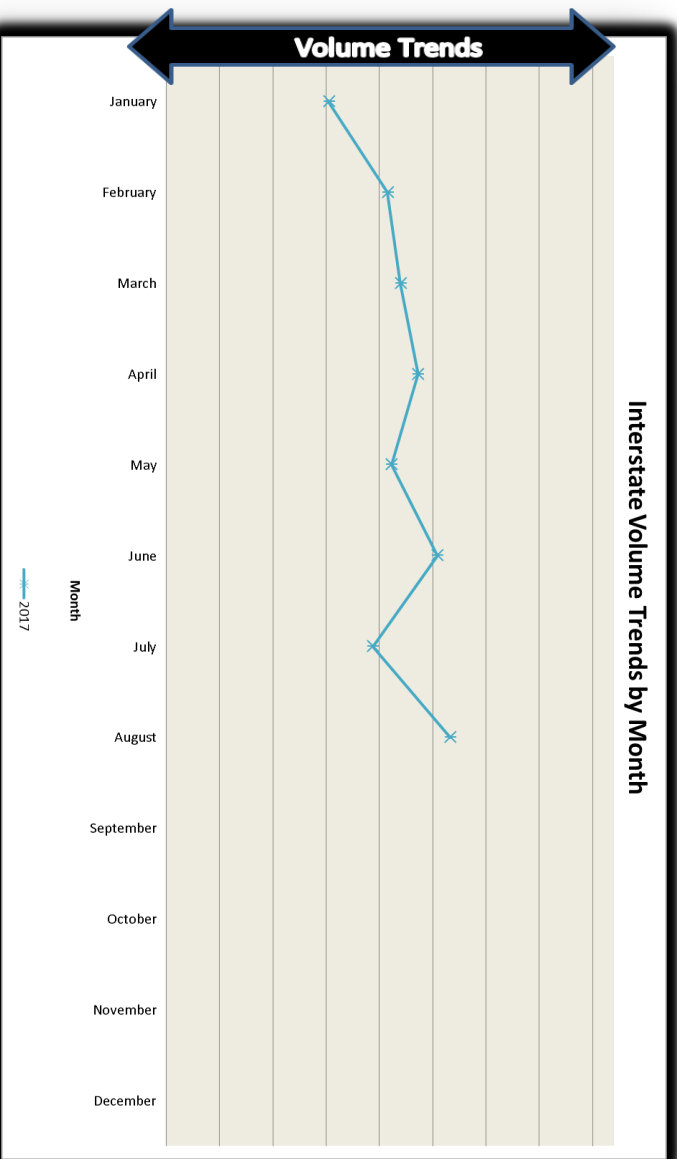


Congestion on I-64 Eastbound between Boones Crossing and McCausland for August 2017 (every weekday)





FREEWAY MANAGEMENT

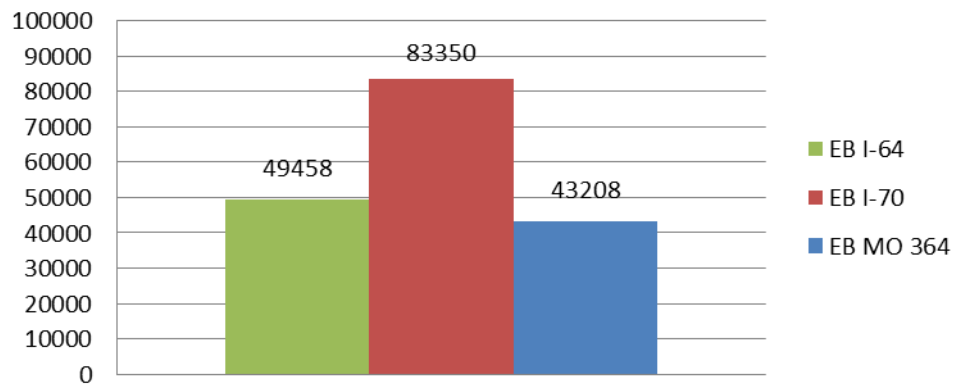


NEW for 2017! The focus area for calculating the average 24 hour volumes was revisited to include all SL District Urban Freeways including Route 364 from I-64 to I-270, Route 367 from I-270 to Route 67, and Route 370 from I-70 to I-270. These freeways are now included in this calculation while the loss of probe data sensors will cause some routes to be excluded. 2017 volumes will be reported for trending purpose only as actual volumes are not comparable to previous years.

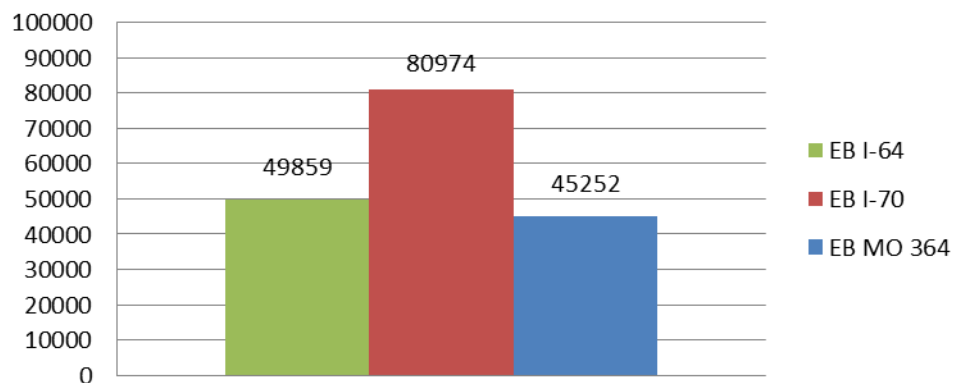


FREEWAY MANAGEMENT

July 2017 EB MO River Crossings
Total = 176,016



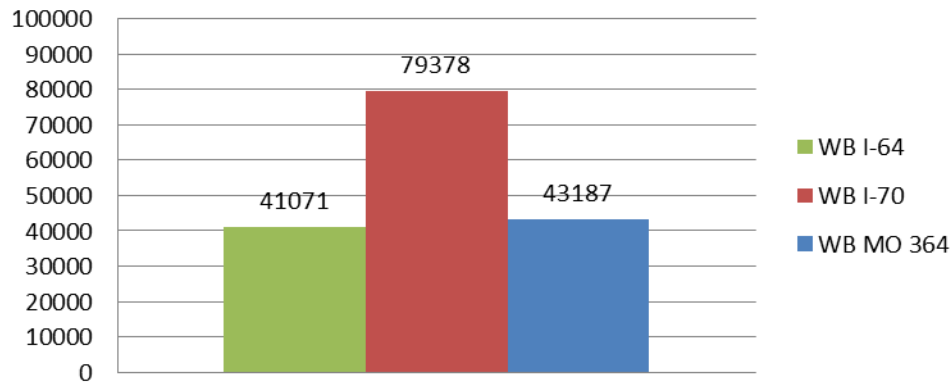
Aug 2017 EB MO River Crossings
Total = 175,684



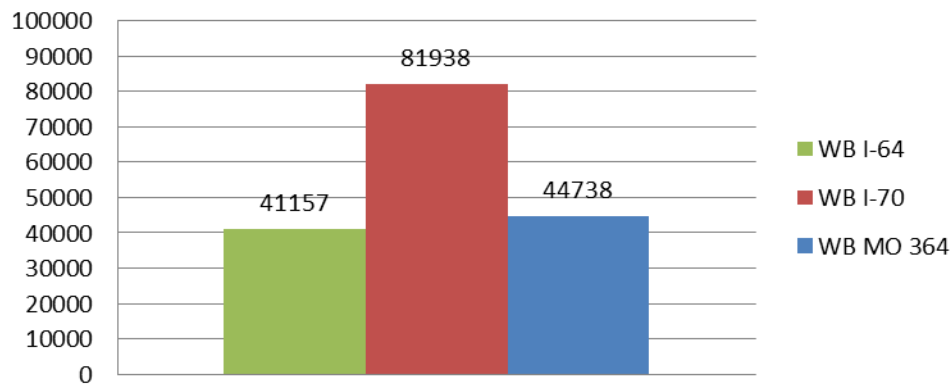


FREEWAY MANAGEMENT

July 2017 WB MO River Crossings
Total = 163,636

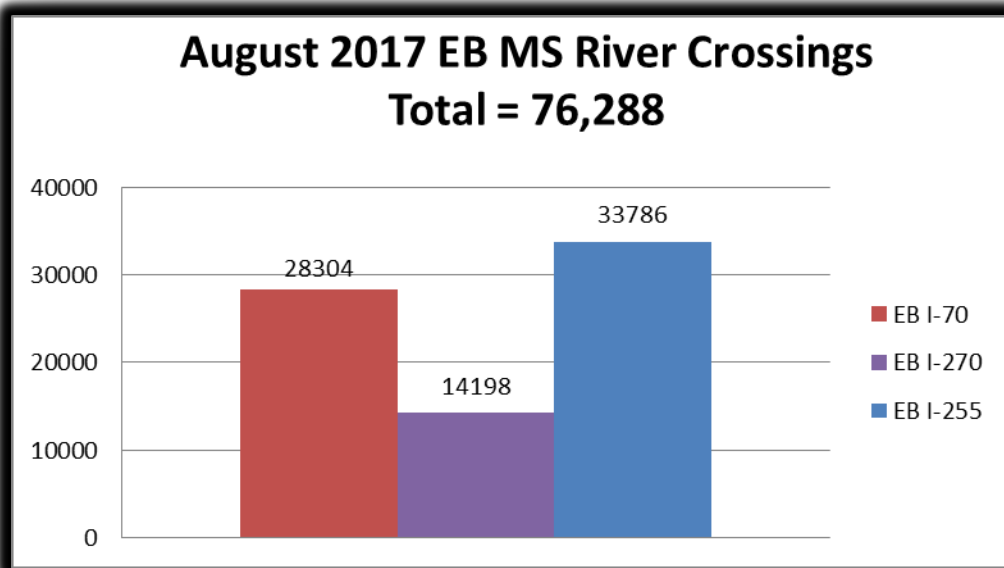
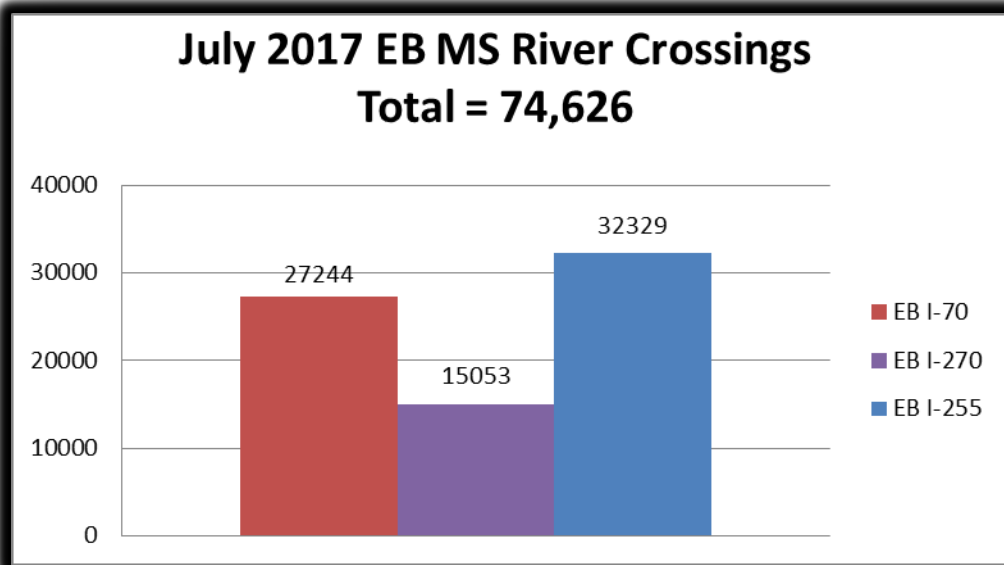


Aug 2017 WB MO River Crossings
Total = 167,833





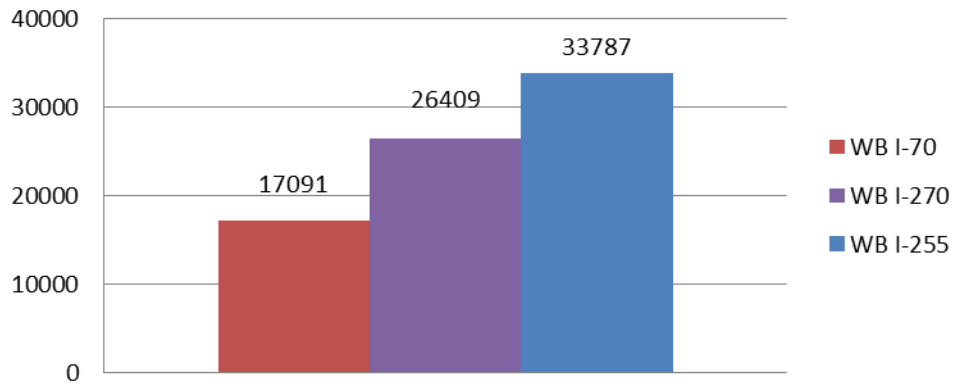
FREEWAY MANAGEMENT



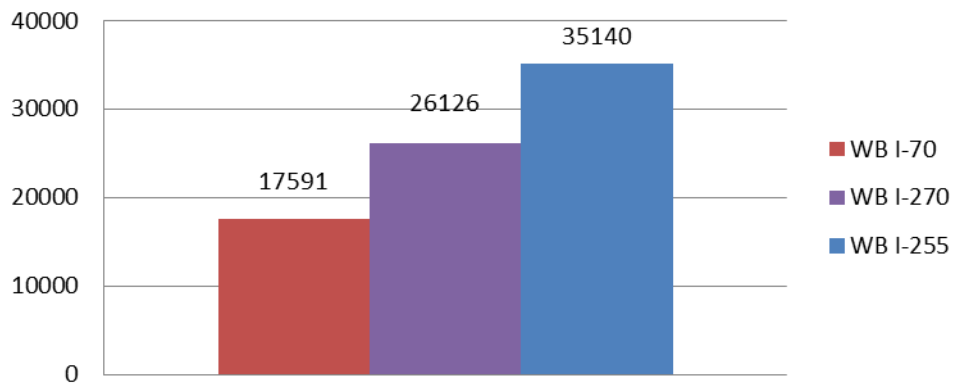


FREEWAY MANAGEMENT

July 2017 WB MS River Crossings
Total = 77,287



August 2017 WB MS River Crossings
Total = 78,857





Work Zones

Whenever additional travel time is reported, this additional time shall be evaluated using this chart and adequate mitigation measures should begin within the parameters of this chart. TMC and field personnel are partners in the mitigation of traffic and notification of additional travel times should trigger the appropriate response from both parties.

Chart is designed to be an additional travel time reference to establish parameters for gauging the travel impact through work zones and to provide guidance for taking mitigation actions. Travel times can be collected or reported via Blue Toad technology, field personnel, call reports, ITS, TMC cameras, etc.

Major and Moderate impacts trigger an IAR (Immediate Action Required) event. IAR means work zone user and TMC partner together to take immediate actions to reduce or eliminate distress. During an IAR event mitigation procedures can range from increased driver notification up to and including removal of work zone. Additional mitigation procedures may require involvement of administration through use of the work zone resolution ladder.

Level of Impact	Additional Travel Time Expected	Mitigation Actions
Major (Red) <u>IAR Event</u> SEVERE DISTRESS PRESENT Return of roadway to free flow traffic is Priority #1	15 minutes or above TMC and field personnel take all steps possible up to and including removal of lane closure to achieve free flow threshold	Immediate Action Required Supervisory mitigation assistance is required using the St. Louis District Work Zone Resolution Ladder as a tool to restore free flow traffic threshold
Moderate (Yellow) <u>IAR Event</u> CAUTIONARY STAGE: Action required by Field/ TMC to prevent escalation to a major event	10 – 14 minutes TMC increases driver messaging. Field begins efforts to restore free flow traffic	TMC and field shall reach a consensus on mitigation success within 15 minutes or less. If a consensus cannot be reached, mitigation should be scaled upwards in accordance with the St. Louis District Work Zone Resolution Ladder



Incident Levels

Major Impact Traffic Incident – Road closure > 2 hours

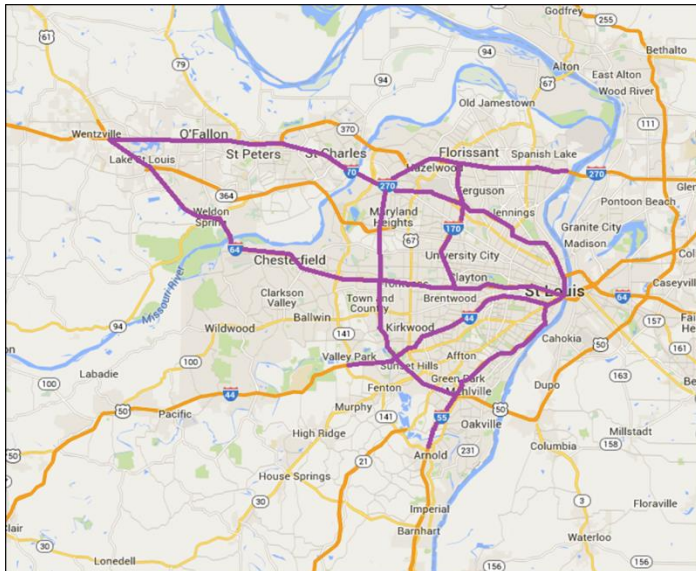
Major traffic incidents are typically traffic incidents involving hazardous materials, fatal traffic crashes involving numerous vehicles, and other natural or man-made disasters. These traffic incidents typically involve closing all or part of a roadway facility for a period exceeding 2 hours.

Moderate Impact Traffic Incident – Blocked travel lanes/closure 30 min – 2 hours

Moderate traffic impact incidents typically affect travel lanes for a time period of 30 minutes to 2 hours, and usually require traffic control on the scene to divert road users past the blockage. Full roadway closures might be needed for short periods during traffic incident clearance to allow traffic incident responders to accomplish their tasks.

Minor Impact Traffic Incident – Lane closures < 30 minutes

Minor traffic incidents are typically disabled vehicles and minor crashes that result in lane closures of less than 30 minutes. On-scene responders are typically law enforcement and towing companies, and occasionally highway agency service patrol vehicles.



NEW for 2017! The focus area for calculating the average 24 hour volumes was revisited to include all SL District Urban Freeways including Route 364 from I-64 to I-270, Route 367 from I-270 to Route 67, and Route 370 from I-70 to I-270. Starting in 2017, these freeways will be included in this calculation while 2013-2016 will be based on the original urban interstate calculation.



Definitions

ACTRA – Traffic signal management software program

Alert – Email message sent regarding an incident or event on the roadway

Arterial – Missouri State Highway Numbered Routes, not fully access controlled

Arterial Device – ITS equipment located along MoDOT arterials

Defined Sensor – A single sensor with an individual ID focused on a particular roadway; multiple defined sensors may be located at one physical sensor location

DMS – Dynamic Message Signs along highway displaying incident and travel time information

DNR – Department of Natural Resources

Driver messaging – Messages placed on DMS boards to alert drivers of incidents ahead of their direction of travel

EOC – Emergency Operations Center operated by MoDOT in Jefferson City

EMS – Emergency Medical Services

ER – MoDOT's Emergency Response units that provide emergency assistance, incident management and traffic control to mitigate incidents and restore free flow traffic within the St. Louis region

Freeway Device – ITS device located along a MoDOT freeway, such as interstates and other fully access controlled highways

Gatewayguide.com – Gateway Guide's website for local St. Louis area traffic information

GGL – Gateway Green Light is the St. Charles County regional integrated corridor management for a cooperative multi-jurisdictional effort to better manage and coordinate travel on the interstates (I-70, I-64), state routes (MO 94, MO 364, MO 370, US 61) and local arterials through the installation of Intelligent Transportation Systems (ITS) in Cottleville, Dardenne Prairie, Lake St. Louis, O'Fallon, St. Charles, St. Peters, and Wentzville.

GuidePost – Area of report highlighting important mobility topics for the month

IDOT – Illinois Department of Transportation

KC Scout – Gateway Guide's counterpart for the greater Kansas City Metropolitan area, a collaboration involving both MoDOT and the Kansas DOT

Mobility – Ease of movement over roadway, through system, and or work zone

MRB – Mississippi River Bridge under construction north of downtown St. Louis

MSHP – Missouri State Highway Patrol

Observed Work zone – Work zone tracked by traffic cameras at the TMC



DATA KEY

Peak Average – Daily speed sensor readings over an entire weekday average commute period averaged for an entire month

PSB – Poplar Street Bridge

Regional Mobility Overview – Map depicting congestion areas based on speed index ratings derived from speed sensor readings

SL – Designation for the St. Louis District

Speed Index – a ratio of the speed at which vehicles travel during a period to the speed at free-flow conditions

Stats to Watch – Area of report highlighting interesting trends for the report month, or data to be closely followed

STLtraffic – Email group consisting of Gateway Guide personnel and Gateway Guide's media partners, messages sent to the group are also posted on Twitter

TMC – Traffic Management Center (also referred to as Gateway Guide)

TMC Alert – Email alert sent to an internal group of Gateway Guide personnel

TMS – Traveler Map System is MoDOT's internal software for entering work zones and road conditions to populate the Traveler Information Map at www.traveler.modot.org/map

Travel Time Index – A ratio of the actual time to travel a corridor compared to travel time at posted speed limit without stops used

User Delay Costs – Puts a dollar amount on how much a road's performance impacts its users. Combines probe speed data with volume data provided by the Texas Transportation Institute to estimate the cost of delay experienced by drivers as a result of congestion. Vehicle costs used are Passenger Vehicle = \$17.67 and Commercial Vehicle = \$68.09.

Visibility – Concerning placement of traffic signs, signals, devices, barricades and warning lights for safety within work zone or construction area to help motorist and workers move within a work zone safely; Clearly visible and legible, distinguishable to approaching traffic during day and night, aligned with road user's line of vision, and positioned as to not obstruct other applicable traffic control devices. Must meet MUTCD standards for condition and must be covered, turned or properly stowed when not in use.

Zoning In – section of report highlighting important construction topics for the report month

I-70 Mile Markers

ST. CHARLES COUNTY		I-70 DISTRICT 6 WESTBOUND	I-70 DISTRICT 6 EASTBOUND	ST. CHARLES COUNTY	
5TH ST SOUTH (ST. CHARLES)	229A			229A	5TH ST SOUTH (ST. CHARLES)
5TH ST NORTH (ST. CHARLES)	229B			229B	5TH ST NORTH (ST. CHARLES)
ST. LOUIS COUNTY				ST. LOUIS COUNTY	
BLANCHETTE BRIDGE	230			230	BLANCHETTE BRIDGE
EARTH CITY EXPRESSWAY SOUTH	231A			231A	EARTH CITY EXPRESSWAY SOUTH
EARTH CITY EXPRESSWAY NORTH	231B			231B	EARTH CITY EXPRESSWAY NORTH
I-270	232			232	I-270
MCKELVEY RD OVERPASS (BRIDGETON)	233			233	MCKELVEY RD OVERPASS (BRIDGETON)
RTE 180/ST. CHARLES ROCK RD (BRIDGETON)	234			234	RTE 180/ST. CHARLES ROCK RD (BRIDGETON)
US 67 SOUTH (BRIDGETON)	235A			235A	US 67 SOUTH (BRIDGETON)
US 67 NORTH (BRIDGETON)	235B			235B	US 67 NORTH (BRIDGETON)
CYPRESS RD (BRIDGETON)	235C			235C	CYPRESS RD (BRIDGETON)
AIRFLIGHT (ST. ANN)	236			236	AIRFLIGHT (ST. ANN)
MCDONNELL OVERPASS (BERKELEY)	237			237	MCDONNELL OVERPASS (BERKELEY)
LAMBERT AIRPORT (BERKELEY)	238A			238A	LAMBERT AIRPORT (BERKELEY)
I-170 NORTH (BERKELEY)	238B			238B	I-170 NORTH (BERKELEY)
I-170 SOUTH (BERKELEY)	238C			238C	I-170 SOUTH (BERKELEY)
NORTH HANLEY (BERKELEY)	239			239	NORTH HANLEY (BERKELEY)
RTE N/FLORISSANT RD (COOL VALLEY)	240A			240A	RTE N/FLORISSANT RD (COOL VALLEY)
BERMUDA DR (NORMANDY)	240B	240B	BERMUDA DR (NORMANDY)		
RTE U/LUCAS AND HUNT RD	241B	241B	RTE U/LUCAS AND HUNT RD		
JENNINGS STATION RD (PINE LAWN)	242C	242C	JENNINGS STATION RD (PINE LAWN)		
ST. LOUIS CITY		ST. LOUIS CITY			
GOODFELLOW (ST. LOUIS)	243A	243A	GOODFELLOW (ST. LOUIS)		
RIVERVIEW/BIRCHER (ST. LOUIS)	243B	243B	RIVERVIEW/BIRCHER (ST. LOUIS)		
UNION (ST. LOUIS)	244A	244A	UNION (ST. LOUIS)		
KINGSHIGHWAY (ST. LOUIS)	244B	244B	KINGSHIGHWAY (ST. LOUIS)		
SHREVE (ST. LOUIS)	245A	245A	SHREVE (ST. LOUIS)		
WEST FLORISSANT AVE (ST LOUIS)	245B	245B	WEST FLORISSANT AVE (ST LOUIS)		
NORTH BROADWAY (ST. LOUIS)	246A	246A	NORTH BROADWAY (ST. LOUIS)		
ADELAIDE (ST LOUIS)	246B	246B	ADELAIDE (ST LOUIS)		
GRAND (ST. LOUIS)	247	247	GRAND (ST. LOUIS)		
SALISBURY (ST LOUIS)	248A	248A	SALISBURY (ST LOUIS)		
BRANCH (ST LOUIS)	248B	248B	BRANCH (ST LOUIS)		
MADISON (ST LOUIS)	249A	249A	MADISON (ST LOUIS)		
PINE ST OVERPASS (ST LOUIS)	250	250	PINE ST OVERPASS (ST LOUIS)		
CHESTNUT ST OVERPASS (ST LOUIS)	250	250	CHESTNUT ST OVERPASS (ST LOUIS)		
MARKET ST OVERPASS (ST. LOUIS)	250	250	MARKET ST OVERPASS (ST. LOUIS)		
WALNUT ST OVERPASS (ST LOUIS)	250	250	WALNUT ST OVERPASS (ST LOUIS)		



DATA KEY

I-70 St. Charles County Mile Markers

RTE A (WENTZVILLE)	212	I-70 DISTRICT 6 EASTBOUND	I-70 DISTRICT 6 WESTBOUND	212	RTE A (WENTZVILLE)
LAKE ST. LOUIS BLVD (LAKE ST. LOUIS)	214			214	LAKE ST. LOUIS BLVD (LAKE ST. LOUIS)
BRYAN RD (O'FALLON)	216			216	BRYAN RD (O'FALLON)
RTE K/RTE M (O'FALLON)	217			217	RTE K/RTE M (O'FALLON)
T.R. HUGHES BLVD (O'FALLON)	218			218	T.R. HUGHES BLVD (O'FALLON)
RTE 79 (ST. PETERS/O'FALLON)	220			220	RTE 79 (ST. PETERS/O'FALLON)
RTE C/MID RIVERS MALL DR (ST. PETERS)	222			222	RTE C/MID RIVERS MALL DR (ST. PETERS)
SPENCER RD OVERPASS (ST. PETERS)	223			223	SPENCER RD OVERPASS (ST. PETERS)
RTE 370 (ST. PETERS)	224			224	RTE 370 (ST. PETERS)
CAVE SPRINGS (ST. CHARLES)	225			225	CAVE SPRINGS (ST. CHARLES)
ZUMBEHL RD (ST. CHARLES)	227			227	ZUMBEHL RD (ST. CHARLES)
HAWK'S NEST OVERPASS (ST. CHARLES)	227			227	HAWK'S NEST OVERPASS (ST. CHARLES)
RTE 94 (ST. CHARLES)	228			228	RTE 94 (ST. CHARLES)
5TH ST SOUTH (ST. CHARLES)	229A			229A	5TH ST SOUTH (ST. CHARLES)
5TH ST NORTH (ST. CHARLES)	229B			229B	5TH ST NORTH (ST. CHARLES)

I-270 Mile Markers

3	KOCH RD	I-255 WESTBOUND I-255 EASTBOUND I-270 DISTRICT 6 COUNTER CLOCKWISE FROM RIVERVIEW DR. TO I-55 I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	KOCH RD	3
2	SR 231 (TELEGRAPH RD)		SR 231 (TELEGRAPH RD)	2
1C	US61-67		US61-67	1B
1B	I-55 NORTH		I-55 NORTH	1B
1	I-55 SOUTH		I-55 SOUTH	1A
2	SR 21 (TESSON FERRY RD.)		SR 21 (TESSON FERRY RD.)	2
3	SR 30 (GRAVOIS RD.)		SR 30 (GRAVOIS RD.)	3
5	I-44 EAST/SR 366 (WATSON RD.)		I-44 EAST	5
5	I-44 WEST		I-44 WEST	5
			BIG BEND RD.	7
8	DOUGHERTY FERRY RD.		DOUGHERTY FERRY RD.	8
10	SR 100 (MANCHESTER RD.)		SR 100 (MANCHESTER RD.)	10
12	I-64 EAST/WEST/US 40-61 NORTH/SOUTH		I-64 EAST/WEST/US 40-61 NORTH/SOUTH	12 A/B
13	SR AB (LADUE RD)		SR AB (LADUE RD)	13
14	SR 340 (OLIVE BLVD)		SR 340 (OLIVE BLVD)	14
16	SR D (PAGE AVE.) EAST		SR D (PAGE AVE.) EAST	16A
16	SR 364 WEST		SR 364 WEST	16B
17	DORSETT RD		DORSETT RD	17
20	I-70 WEST/EAST		I-70 WEST	20B
			I-70 EAST	20A
20C	SR 180 (ST. CHARLES ROCK RD)		SR 180 (ST. CHARLES ROCK RD)	20C
22	MISSOURI BOTTOM RD/370 WEST		SR 370 WEST	22D
23	MCDONNELL BLVD		MCDONNELL BLVD	23
25A	US 67 SOUTH		US 67 NORTH	25A
25B	US 67 NORTH		US 67 SOUTH	25B
26	HANLEY/GRAHAM RD.		I-170 SOUTH (EXIT LEFT)	26A
26	I-170 SOUTH		HANLEY/GRAHAM	26B
27	NEW FLORISSANT RD		NEW FLORISSANT RD	27
28	WASHINGTON/ELIZABETH RD.		ELIZABETH/WASHINGTON	28
29	WEST FLORISSANT RD		WEST FLORISSANT RD	29
30	SR AC HALLS FERRY RD		SR AC NEW HALLS FERRY RD	30
			NEW HALLS FERRY RD.	30A
31A	SR 367 SOUTH		SR 367 SOUTH	31A
31B	SR 367 NORTH		SR 367 NORTH	31B
32	BELLEFONTAINE RD		BELLEFONTAINE RD	32
33	LILAC AVE.		LILAC AVE.	33
34	RIVERVIEW DR.		RIVERVIEW DR.	34



DATA KEY

I-64 Mile Markers

I-70 WEST EXIT RIGHT/EAST EXIT LEFT	1		1A	I-70 WEST
			1B	I-70 EAST
PROSPECT RD	1C		1C	PROSPECT RD
LAKE ST. LOUIS BLVD	2		2	LAKE ST. LOUIS BLVD
SR N	4		4	MO N
SR DD/WINGHAVEN	6		6	MO DD/Winghaven
SR K/SR 94	9		9	MO K
			10	MO 94
MISSOURI RESEARCH PARK/TECHNOLOGY DR	12		11	RESEARCH PARK CRL
DANIEL BOONE BRIDGE	13		13	DANIEL BOONE BRIDGE
CHESTERFIELD AIRPORT RD	14		14	SPIRIT OF ST LOUIS BLVD
			16	LONG RD
BOONE'S CROSSING	17		17	BOONE'S CROSSING
CHESTERFIELD PKWY	19A		19A	CHESTERFIELD PKWY
SR 340 (OLIVE/CLARKSON)	19B		19B	MO 340 (OLIVE/CLARKSON)
			20	CHESTERFIELD PKWY
TIMBERLAKE MANOR PKWY	21		21	TIMBERLAKE MANOR PKWY
SR 141	22		22	MO 141 (WOODS MILL RD)
MASON RD	23		23	MARYVILLE CENTRE DR
			24	MASON RD
I-270 SOUTH	25A		25A	I-270 SOUTH
I-270 NORTH	25B		25B	I-270 NORTH
SR JJ (BALLAS RD)	26		26	MO JJ (BALLAS RD)
SPOEDE RD	27		27	SPOEDE RD
US 61-67	28A		28A	US 61-67
			28B	CLAYTON RD
MCKNIGHT RD	30		30	MCKNIGHT RD
BRENTWOOD/HANLEY RD	31B		31A	I-170 NORTH
I-170 NORTH	31A		31B	HANLEY RD/BRENTWOOD BLVD
BELLEVUE AVE	33B			
BIG BEND	33A		33A	BIG BEND BLVD
MCCAUSLAND	33C			ST. LOUIS CITY
ST. LOUIS CITY			33C	MCCAUSLAND AVE
HAMPTON AVE/OAKLAND AVE	34B		34A	CLAYTON RD/SKINKER BLVD
			34B	HAMPTON AVE
KINGSHIGHWAY	36A		36A	KINGSHIGHWAY
VANDEVENTER AVE	36C		36B	BOYLE
MARKET ST/BERNARD ST	37A			
GRAND AVE	37B			
JEFFERSON AVE	38A		38A	FOREST PARK AVE/GRAND BLVD
CHESTNUT AT 20TH ST	38B		38B	MARKET ST AT 3000 WEST
14TH ST	39B		39A	MARKET ST AT 21ST
11TH ST EXIT LEFT	39C		40A	STADIUM/9TH ST/ TUCKER BLVD
BROADWAY/7TH ST (LAST MISSOURI EXIT)	40B		40C	I-44 WB/I-55 SB/ I-70 WB

I-64 DISTRICT 6 WESTBOUND
I-64 DISTRICT 6 EASTBOUND

I-55 Mile Markers

JEFFERSON COUNTY		I-55 DISTRICT 6 NORTHBOUND I-55 DISTRICT 6 SOUTHBOUND	JEFFERSON COUNTY	
RTE M	185		185	RTE M
MAIN ST(IMPERIAL)	186		186	MAIN ST(IMPERIAL)
RICHARDSON RD (ARNOLD)	190		190	RICHARDSON RD (ARNOLD)
RTE 141 (ARNOLD)	191		191	RTE 141 (ARNOLD)
ST. LOUIS COUNTY			ST. LOUIS COUNTY	
MERAMEC BOTTOM RD	193		193	MERAMEC BOTTOM RD
BUTLER HILL RD	195		195	BUTLER HILL RD
I-255 EAST	196A		196A	I-255 EAST
I-270 NORTH	196B		196B	I-270 NORTH
US67/LINDBERGH	197		197	US67/LINDBERGH
REAVIS BARRACKS RD	199		199	REAVIS BARRACKS RD
UNION RD	200		200	UNION RD
BAYLESS	201A		201A	BAYLESS
WEBER RD	201B		201B	WEBER RD
ST. LOUIS CITY			ST. LOUIS CITY	
GERMANIA (ST. LOUIS)	202B		202B	GERMANIA (ST. LOUIS)
LOUGHBOROUGH AVE (ST. LOUIS)	202C		202C	LOUGHBOROUGH AVE (ST. LOUIS)
BATES (ST. LOUIS)	203		203	BATES (ST. LOUIS)
BROADWAY (ST. LOUIS)	204		204	BROADWAY (ST. LOUIS)
GASCONADE (ST. LOUIS)	205		205	GASCONADE (ST. LOUIS)
ARSENAL (ST. LOUIS)	206C		206C	ARSENAL (ST. LOUIS)
SIDNEY OVERPASS	206		206	SIDNEY OVERPASS
GRAVOIS AVE OVERPASS	207		207	GRAVOIS AVE OVERPASS
I-44 WEST (ST. LOUIS)	207		207	I-44 WEST (ST. LOUIS)
7TH ST/PARK AVE (ST. LOUIS)	208		208	7TH ST/PARK AVE (ST. LOUIS)

I-44 Mile Markers

FRANKLIN COUNTY		I-44 DISTRICT 6 WESTBOUND I-44 DISTRICT 6 EASTBOUND	FRANKLIN COUNTY	
PACIFIC	257		257	PACIFIC
ST. LOUIS COUNTY			261	ALLENTON/SIX FLAGS
ALLENTON/SIX FLAGS	261		ST. LOUIS COUNTY	
RTE 109/RTE W	264		264	RTE 109/RTE W
WILLIAMS RD	265			
LEWIS RD	266		266	LEWIS RD
			269	ANTIRE
RTE 141	272		272	RTE 141
BOWLES	274		274	BOWLES
MRAZ	274			
			275	SOCCER PARK
I-270 NORTH	276B		276B	I-270 NORTH
I-270 SOUTH	276A		276A	I-270 SOUTH
RTE 366/WATSON	277A			
US 67/LINDBERGH	277B		277B	US 67/LINDBERGH
BIG BEND	278		278	BIG BEND
			279	BERRY
ELM	280		280	ELM
LACLEDE STATION	282			
ST. LOUIS CITY			283	SHREWSBURY
JAMIESON	284A		ST. LOUIS CITY	
			284B	ARSENAL
			285	SOUTHWEST
HAMPTON	286		287	KINGSHIGHWAY
KINGSHIGHWAY	287		288	GRAND AVE
GRAND AVE	288		289	JEFFERSON AVE
JEFFERSON AVE	289			
I-55 SOUTH	290A			
18TH ST	290B		290C	12TH ST./GRAVOIS

I-170 Mile Markers

I-64 WEST/US 40-61	1A	I-170 DISTRICT 6 SOUTHBOUND	I-170 DISTRICT 6 NORTHBOUND	
I-64 EAST/US 40-61	1B			
				1C GALLERIA PARKWAY
BRENTWOOD BLVD	1D			
FOREST PARK PARKWAY	1E			1E FOREST PARK PARKWAY
LADUE RD	1F			1F LADUE RD
DELMAR	2			2 DELMAR
EAST/3B WEST SR 340 (OLIVE BLVD)	3A			3 SR 340 (OLIVE BLVD)
SRD/SR 364 (PAGE AVE)	4			4 SR D/SR 364 (PAGE AVE)
SR 180 (ST. CHARLES ROCK RD)	5			5 SR 180 (ST. CHARLES ROCK RD)
SR 115 (NATURAL BRIDGE RD)	6			6 SR 115 (NATURAL BRIDGE RD)
I-70 EAST (EXIT LEFT)	7A			7A I-70 EAST (EXIT RIGHT)
I-70 WEST (EXIT RIGHT)	7B			7B I-70 WEST (EXIT LEFT)
				7C LAMBERT ST. LOUIS AIRPORT
SCUDDER	8			8 SCUDDEN/N. HANLEY RD
AIRPORT RD	9A			9A AIRPORT
				9B BOEING (EXIT LEFT)
				9C N. HANLEY RD
				10A I-270 WEST (EXIT RIGHT)
				10B I-270 EAST (EXIT LEFT)

SR 364 Mile Markers

		SR 364 WESTBOUND	SR 364 EASTBOUND	11B	HARVESTER RD
				12	HERITAGE CROSSING/JUNGS STATION RD
SR94 EAST/ST. CHARLES	13			13	SR 94 EAST/MUEGGE RD
ARENA PKWY/UPPER BOTTOM RD	14			14	UPPER BOTTOM/ARENA
MARYLAND HEIGHTS EXPRESSWAY	17			17	MARYLAND HEIGHTS EXPRESSWAY
BENNINGTON PL	19				
				21	BENNINGTON PL
I-270 SOUTH	22A				
I-270 NORTH	22B				

SR 370 Mile Markers

		SR 370 WESTBOUND SR 370 EASTBOUND	1A	I-70 WESTBOUND
			1B	I-70 EASTBOUND
			1C	SPENCER RD
TRUMAN/CAVE SPRINGS RD	2		2	TRUMAN/CAVE SPRINGS RD
ELM/NEW TOWN BLVD	5		5	ELM/NEW TOWN BLVD
N 3RD ST/SR 94	7		7	N 3RD ST/SR 94
DISCOVERY BRIDGE ST. CHAS CO/ ST. LOUIS CO	8		8	DISCOVERY BRIDGE ST. LOUIS CO/ ST. CHAS CO
EARTH CITY EXPRESSWAY	9		9	EARTH CITY EXPRESSWAY
ST. LOUIS MILLS BLVD	11		11	ST. LOUIS MILLS BLVD
MISSOURI BOTTOM RD	12			
I-270 WEST BOUND	12			
I-270 EAST BOUND	12			

SR 21 Mile Markers

RT B	164.8	SR 21 NORTHBOUND SR 21 SOUTHBOUND	164.8	RT B
RT BB	165.4		165.4	RT BB
STADIUM DR UNDERPASS	166.4		166.4	STADIUM DR UNDERPASS
RTE A	167.8		167.8	RTE A
SAND CREEK	169		169	SAND CREEK
HAYDEN RD	169.2		169.2	HAYDEN RD
GLADE CHAPEL RD OVERPASS	171.4		171.4	GLADE CHAPEL RD OVERPASS
OLD HWY 21 (GOLDMAN)	172.6		172.6	OLD HWY 21 (GOLDMAN)
KLABLE RD OVERPASS	174.2		174.2	KLABLE RD OVERPASS
SCHENK RD OVERPASS	175.2		175.2	SCHENK RD OVERPASS
HEADS CREEK	176.4		176.4	HEADS CREEK
RT MM	177.7		177.7	RT MM
W. FOUR RIDGE RD OVERPASS	179		179	W. FOUR RIDGE RD OVERPASS
OLD HWY 21 (SHADY VALLEY)	180.4		180.4	OLD HWY 21 (SHADY VALLEY)
OLD HWY 21 UNDERPASS	182		182	OLD HWY 21 UNDERPASS
WEST ROCK CREEK RD OVERPASS	182.8		182.8	WEST ROCK CREEK RD OVERPASS
OLD HWY 21 OVERPASS	183.2		183.2	OLD HWY 21 OVERPASS
LONDELL RD	184.2		184.2	LONDELL RD
OLD HWY 21	184.5		184.5	OLD HWY 21
SR 141	185.6		185.6	SR 141